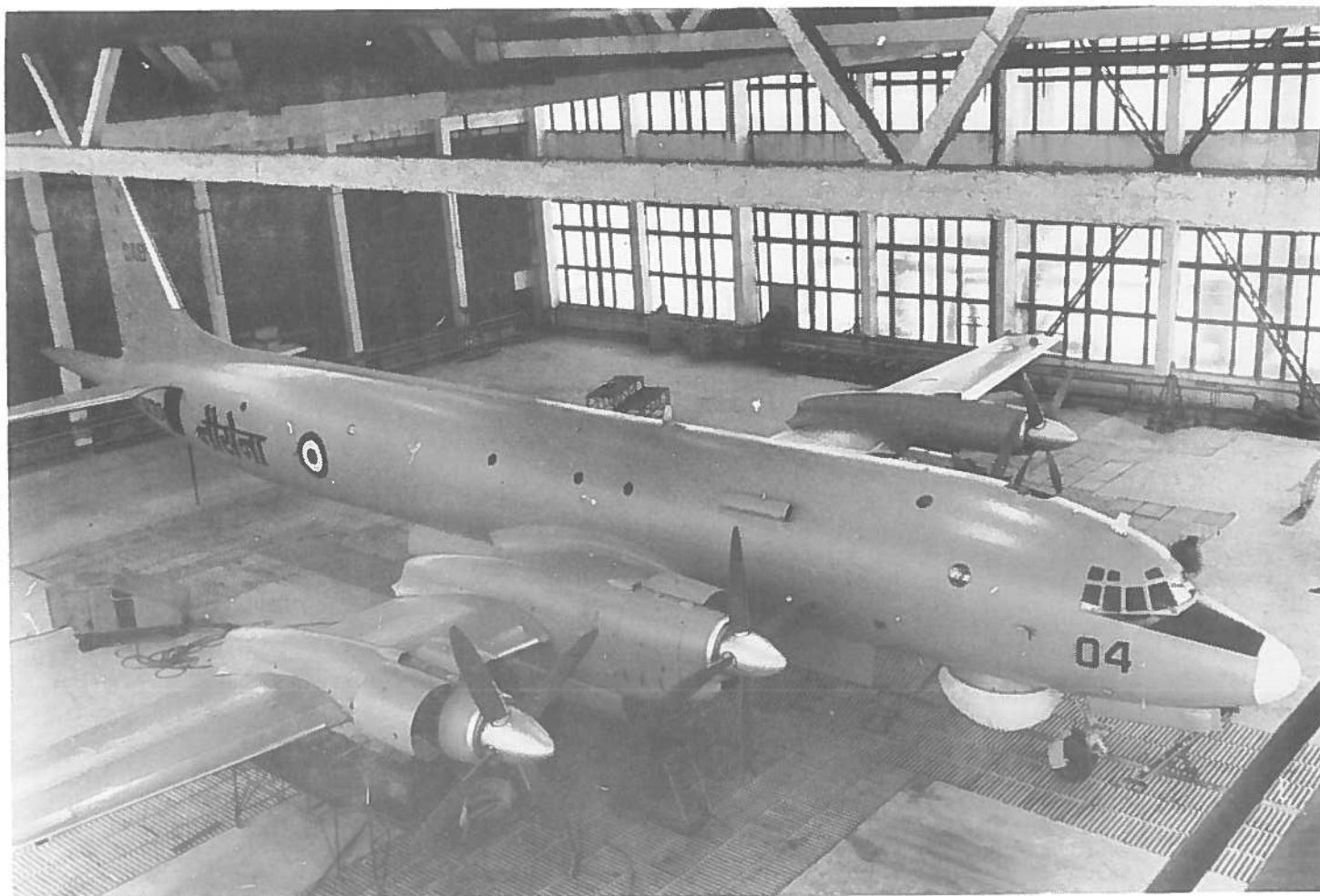


# small air forces observer

vol. 19 no. 4 (76)  
December 1995

US \$3.50



Air Combat over Yugoslavia - April 1941  
Squadrons of the Israeli AF: Update II  
Hurricanes in Yugoslavia  
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Mexican AF T-Birds  
Indian Navy Il-38

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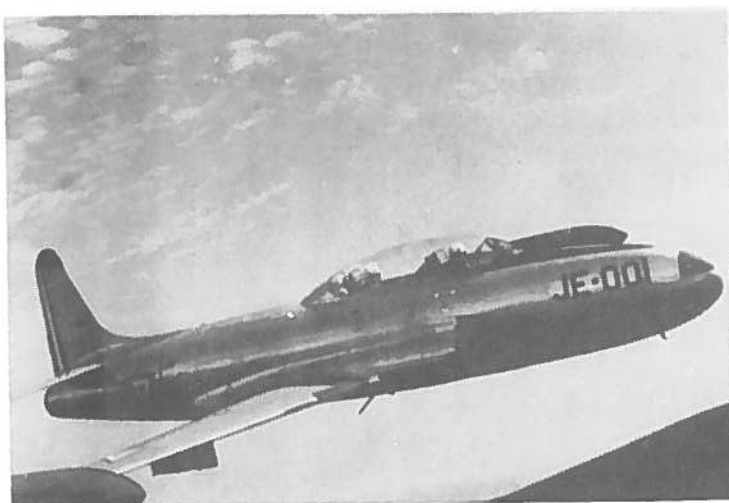
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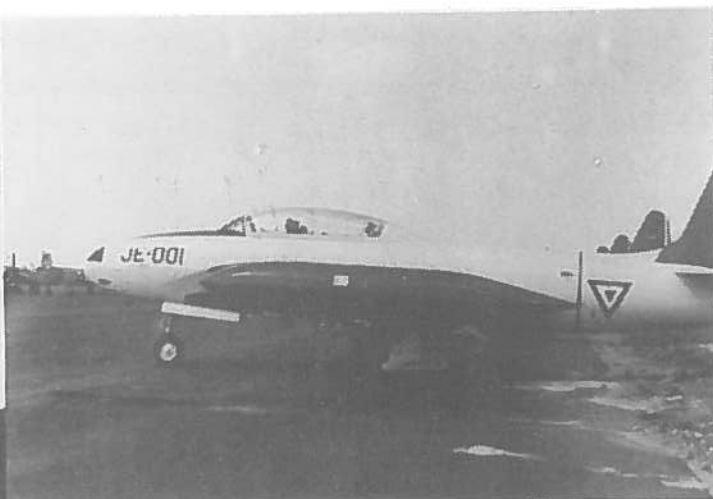
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# SMALL AIR FORCES OBSERVER

## The Newsletter of the Small Air Forces Clearing House

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**SAFO EDITORIAL POLICY:** The purpose of the SAFCH is to "promote interest in the history and modeling of the aircraft of the smaller countries". In support of this goal, the SAFCH encourages international cooperation in researching aviation history, both military and civil, from all periods of time, and for all the smaller countries. In return for this support, members are asked to submit occasional progress reports for publication in the SAFO. While the final results should appear in the most prestigious publication possible, it is requested that the SAFCH be mentioned (with address) in the article and that SAFO be afforded the opportunity of reprinting the material. Article published in SAFO can be reprinted provided permission of the author is obtained and the SAFO is identified in the reprint.

**SUBSCRIPTION RATE:** Subscription to the current volume of the SAFO is US \$10.00 for 4 issues per year in the USA and elsewhere via surface mail. For the cost of air mail delivery, contact the editorial office, or send \$20.00 and any surplus will be credited to your account. Payment should be made in cash, by International Money Order, or by a check drawn on a bank with a subsidiary in the US. (There's a \$25 charge to cash a check from a bank without a US subsidiary.) New subscriptions begin with all issues of the volume current at the time payment is received; if you desire otherwise, please specify which issues are desired. Send remittance to Jim Sanders, 27965 Berwick Dr., Carmel, CA 93923 USA.

**BACK ISSUES:** Either back issues or Xerox copies of out-of-print issues are available for all issues of the SAFO published. For a list of all issues and their content, send two 1st class stamps (or 2 IRCs) to the editorial office.

**MEMBERSHIP LIST:** To promote cooperation between members, a list of SAFO member's names and addresses is available to SAFCH members for \$1.00 plus postage (USA \$0.55; others \$0.95 surface or \$1.73 air mail).

**SPONSORSHIP PROGRAM:** To keep the SAFCH truly international, our Sponsorship Program allows persons who can not obtain US currency to receive the SAFO. Any SAFCH member interested in sponsoring a SAFO subscription for a person in Eastern Europe (or from other country where it is impossible or difficult to obtain US currency) should write to the editorial office for a list of persons seeking sponsors. If you would like to receive the SAFO but can not obtain US currency, a list of SAFCH members looking for someone to sponsor is also available from the editorial office.

**INFORMATION FOR AUTHORS:** Manuscripts may be submitted in any form; authors whose first language is not English may submit a rough translation of the text and the editorial office will put it into good English. Authors using a computer should send the manuscript on disc. Photo should be black and white prints although color prints can be used. If you want any photos returned, please mark "Return" on the back. All art work must be

ready for printing. The layout should be such than when a page is reduced (if necessary) the drawing should fit into the 7.5 inch by 10 inch working area of the final page. Art work that does not fit this requirement will have to be cut and pasted to fit; no problem, but things might not look exactly as you want them to look. All work for the SAFO is voluntary and no payment can be made for published material.

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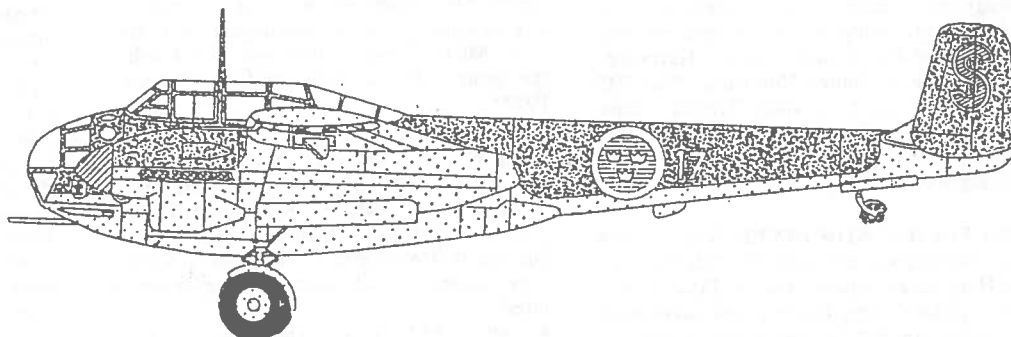
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**LOST MEMBERS:** Anyone knowing the whereabouts of the following 'lost' SAFCH members please inform the editorial office (last known address included): Eric Stoutenburg, Ft. Carson, CO; Curtis Marzolf, Bulverde, TX; Ira Campbell, Tamarac, FL; E. Tronn, Montreal, PQ Canada; Alain La Pierre, Maracay, Venezuela; Michael Parr, Prince George, B.C. Canada; Richard Harrison, Stroudsburg, PA; Ellis Estes, Alexandria, VA. Gary Lepinski, Minneapolis, MN; Doug Dildy, APO.

**COVER COMMENTS:** An Indian Navy Ilyushin Il-38 in the hanger at the Pushkin Aviation Facility, St. Petersburg, Russia. This aircraft was in Russia for an overhaul during November-December 1992. An article, by Peter Batuev of St. Petersburg, on the Indian Navy Il-38 appears on page 119 along with more photos on pages 135 and 136 of this issue of SAFO. (Photo by author.)

**SAAB T-18B**  
Broplan 1/72-scale vacuform kit  
(see kit review on page 118)



## AUSTRALIA

NEWS AND VIEWS (IPMS NEW SOUTH WALES, PO Box 637, Broadway, NSW 2007; 4 issues A\$30.00 air mail).

12/1-2 (52 pages) "Kingfisher in the Antipodes" 20 pages including 31 photos, tables, maps, and 4 pages of drawings of color schemes. "Aces Corner: Clive Caldwell" 5 pages including 4 side-view drawings of Clive's Spitfires. "CAC Ca-6 Wackett Trainer" 7 pages including 13 photos, 7 side-view drawings, and sketches on modeling the Wackett.

## AUSTRIA

OFH NACHRICHTEN (Oesterrichische Flugzug Historiker, Pfenninggeldgasse 18/2/14, A-1160, Wien. Write for free sample.)

3/95 (32 pages) "Feldpilot Alois Friedam" 4 pages including 2 photos and side-view drawing (Brandenburg C.I). "Die Zeit verging wie im Fluge" 3 pages including one photo and 2 side-view drawings (Udet Flamingo & A-Hopfner). Photos: Remains of Croatian Do-17Z (0402) & Hungarian Ju-86P (B.3?).

## BELGIUM

KIT (IPMS Belgium, c/o Michel Willot, dreve de Champagne 14, B-1190 Bruxelles; 4 issues US \$25 in cash, International Postal Money Order for 750 BF.

#97 1/95 (36 pages) "MirSIP, Elkan: du Plat Pays a la Cordillera" 18 pages including 2 color photos, 17 b&w photos, 6 pages of drawings of details, and 2 pages of 1/72-scale drawings of ex-Belgian Mirages in Chilean markings.

## CANADA

RANDOM THOUGHTS (IPMS Canada, Box 626, Stn. B, Ottawa, Ontario K1P 5R7; 6 issues for US \$20.00 in US \$22.00 elsewhere).

24/2 (24 pages) "Black Bart Sounding Rockets" one page including drawings. "A Canadian Freedom Fighter: The CF-5" 4 pages on modifying the Hasegawa 1/32-scale kit including 3-view drawing of color scheme. "YQF-106 Target Drone" 2 pages including 6 side-view drawings. "The Golden Age of Modeling" a one-page retrospect. "Two Kinds of 'Sky'" 3 pages on the controversy over the shade of 'Sky' worn by Canadian Spitfires and Sea Furies. "Yippee" 2 pages on building a vermilion-orange P-38J including 2-view drawing.

## CZECH REPUBLIC

ZLINEK (Jaromir Stepan, P.S. 8, 763 14 Zlin 12). Text in English.

III/1 (32 pages) "Hurricanes Unknown" 19 pages including 14 photos, 4 pages of scale drawings (including Soviet 2-seater), 2 3-view color drawings (Soviet), and 14 color side-view drawings (5 Soviet & 4 Yugoslav) - mostly about Hurricanes in Russia, but with good discussion of Yugoslav Hurricanes and a little about Finnish Hurricanes. "Su-17M2 and Su-22" 13 pages including 13 photos, color cover painting, one 3-view color drawing (Soviet), 3 color side-view drawings (Libya, Peru, & USSR), and 6 pages of 1/72-scale, 3-view drawings.

AERO PLASTIC KITS REVUE (Vydavatelství Model Hobby Press, ul. 1. máje 11, 709 00 Ostrava-Mar. Hory, Czech Republic. 6 issues \$33 surface or \$45 air.) [Editor's note: This magazine has so much information in it that I've had to limit mention to only a few of the more exciting articles in each issue.

Otherwise, the entire abstract section would be devoted to PKR.]

#27 4/94 (74 pages) "Vojenske Letectvo Kam-bodze" 6 pages including 10 photos and 14 color side-view drawings (MS-500, Douglas AD-4, Helio AU-24A, NA T-28D, Cessna T-37C, Bell UH-1, NA F-86D, Douglas C-47, MiG-15UTI, MiG-17F, MiG-19S, MiG-21bis, MiG-21UM, & Mi-8). "Dvoumotorové a Bitevní Letony" 4 pages including 5 photos and two 3-view drawings (DIS-200, PBSh-1, & PBSh-2). "Sopwith Camel" 9 pages including 8 photos, 4 pages of 1/48-scale drawings, and 6 color side-view drawings. "English Electric Canberra a Martin B-57: 3.cast" 11 pages including 7 b&w & 4 color photos, 3 pages of scale drawings, and 6 color side-view drawings (Rhodesian (3), Ethiopian, Indian, & South African). "Kridla nad Suezem v roce 1956: 1.cast" 6 pages including 7 photos and 4 color side-view drawings (Egyptian Meteor, Vampire, & Yak-11 and Israeli Meteor). "Valečník Mnoha Armad, MS.406 v Cizích Sluzbach: 2.cast" 8 pages including 11 photos and 8 color side-view drawings (French, Vichy French, Free French, Finnish, Polish, & German). "Orestavba Modelu Ki61-1D of Firmu Hasegawa na Ki-61-II KAI Hei" 4 pages on conversion including 8 photos and construction drawings. "Kuriozita v Dejinach Letectvi: Nesymetrické Letouny Nemecke Luftwaffe 1939-45" 9 pages including 6 photos, eleven 3-views, and a page of color drawings of the BV-141 and other German asymmetric a/c projects.

## DENMARK

NYT (IPMS Denmark, c/o rn Jensen, Rosen-vaegets Alle 6, 2100 Kobenhavn 0; 4 issues for 90 Dkr surface, 100 Dkr airmail). Each issue includes a two-page English summary.

#66 (42 pages) "Fairley Firefly TT.1 ved Flyvevab-net" 8 pages including 43 photos and 2 pages of scale drawings of Danish target-towing Fireflies. "Messerschmitt Bf-109 i det Schweiziske Luftvaben: del 2" 4 pages including drawings of color schemes carried by Swiss 109G6.

#67 (40 pages) "Sea Harrier F/A2" 6 pages including 3 photos, 3 side-view drawings, and drawing for converting the Hasegawa FRS-1 to a F/A2.

#68 (40 pages) "German Aircraft in Denmark, May 1945" 4 pages with 8 photos.

## ENGLAND

IPMS MAGAZINE (Ernie Lee, 51 Ball Road, HILLSBOROUGH, Sheffield, South Yorkshire S6 4LZ, 6 issues for £20.00 (US subscription agent: Wise Owl Publications, 4314 West 238th St., Torrance, CA 90505; since exchange fluctuates write Joe for current rates).

5/95 (40 pages) "First of Many" 9 pages on modeling the Mk.1 Hurricane including one photo, 20 side-view drawings, and conversion sketches. "Hurricane Mk IIc" 7 pages with 24 photos of details of the Battle of Britain Memorial Flight Hurricane PZ865.

PLASTIC KIT CONSTRUCTOR (PAMAG Publications Ltd., 3 Lowfield Court, Old Forge Business Park, Sark Road, Heeley, Sheffield, S2 4HG; 4 issues £19.00. In USA/Canada order from J.J. Daileda, 4314 West 238th St., Torrance, CA 90505; since exchange rates fluctuate write Joe for current rates).

43 Autumn 95 (32 pages) "The Phoenix Air Arm" 2 pages including 9 side-view drawings of early

Indonesian a/c. "The PP Aerokit Sea Fury Detail Set" 4 pages including 14 photos of model. "Jack Northrop's Flying Wings" a 2-page history.

SWEDISH AIRFORCE SIG (Ted Burnett, 19 Tintagel Close, Parkside Grange, Cramlington, Northumberland, England NE23 0NZ. Subscription £3.00 UK, £5.00 Europe, \$15.00 USA).

#19 October '95 (34 pages) "The Twin Tail J 21" 10 pages including a 2-page scale drawing. "The Canberra TP 52" 8 pages including a 2-page scale drawing. "The Vickers Varsity" 4 pages including a 2-page scale drawing. "Review of the Airfix J 30 Mosquito Kit" 4 pages including table of aircraft and a 2-page scale drawing.

## FINLAND

IPMS-MALLARI (IPMS Finland, PL 798, 00101 Helsinki 10; 6 issues \$20.00, no check accepted due to the high redemption costs).

4/95 #108, (16 pages) "Pyörremyrsky eli 'Hameen Hurrikanni': osa.1" 9 pages including 5 photos of aircraft, 6 photos of scratch-built model under construction, 3 pages of 1/48-scale drawings, and a page of sketches of the interior.

SUOMEN ILMALUHIHISTORIAALLINEN LEHTI (InScale 72, Makelankatu 5B10, 00550 Helsinki; Europe \$25, elsewhere \$30; payment by International Postal Order or in cash; no cheques of any kind accepted because of high redemption rates). Each issue includes a 2-page English summary.

3/95 (24 pages) "Portinhoikan Pommitus" 4-page story of the largest single operation ever conducted by the FAF including 11 photos and table (182 victories in 16 days). "FR-76: Tykki-Fokkeri" 9-page history of the cannon-armed Fokker D-21 including 8 photos and 3 pages of scale drawings. "Gennadij Kylassa" 3 pages on the crash and recovery of a Soviet MiG-15 in 1954 including 2 photos and one side-view drawing. "F-Rekisteri" one page on first serial systems used by the FAF including one photo and table. "Ilmavoimien Kaynnistysauto" 2 pages on FAF starter truck including 2 photos and scale drawing. "Tapaus KO-130" half-page story of Koolhoven FK.52 which disappeared in 1941 including one photos.

## FRANCE

Air Zone, Le Nouveau Mensuel de l'Air! (Air Zone, BP n.49, 28210 Nogent-le-Roi, France. A one-year's subscription for 9 regular issues and two special issues is 405FF. Payment preferably by check drawn in FRF on a French bank, by draft or postal giro.) Each issue contains book and kit reviews and a one-page summary in English.

#8 (52 pages) "Sirenes & Cigognes" 8 pages including 22 color photos of Polish MiG-29 and French Mirage 2000 on exchange visits. "Les Maitres du Temps" 10 pages including 21 color photos of aircraft used by the French low-level, high-speed, navigational training unit. "Le Jabog 35 est Mort. Vive le JG 73" 11 pages including 16 color photos of German F-4s and MiG-29s. "Etoiles Filantes" 12 pages including 20 color photos of Russian helicopters (Mi-8, Mi-2, & Mi-24) leaving Germany.

#9 (52 pages) "Belgian AF Seaking Modernization" 2 pages including 4 photos. "Turkish Stars" 3 pages including 9 photos of the Turkish aerobatic team's F-5s in red and white color scheme representing the "seldjik eagle, a crested eagle from Central Anatolia". "EC 1/7 'Provence': Jaguars for SEAD (Suppression of Enemy Air Defenses) 13 pages including 32 photos of Jaguars carrying AS

37 Martel antiradiation missiles, and 4 unit insignia. "Moscow Salon 95" 7 pages including 16 photos (MiG-31M, II-76MF, Mi-28N, Ka-31). "Italy Celebrates 1000,000 f/h on the Tornado" 7 pages including 14 photos. "EC2/3 'Champagne' Forgotten Anniversary" 5 pages including 9 photos and 3 unit insignia. "Thirty Years of the Flygvapnet's 'Herk' Fleet" 5 pages including 11 photos of C-130 (Sweden, Belgium, Italy, & Norway).

**AVIONS: Toute l'Aeronautique et son Histoire** (39 rue A. Briand, 62200 Boulogne Sur Mer, France. 420F for 12 issues).

**#30 Septembre 95** (52 pages) "50 Bougies pour la 3S: 3eme partie" 3 pages including 6 photos. "Les Mirage F.1 Etrangers" 4 pages including 15 photos (Kuwait, Morocco, South Africa, Ecuador, Greece, Spain, Qatar, Iraq, Libya, & Jordan). "Du V-1 au V-12: Les Debuts de Jerry Vultee" 6 pages on Brazilian V-11 including 17 photos and a 1/72-scale 4-view drawing. "Nom de Code: Morse: Le Supermarine Walrus" 7 pages including 10 photos, a 1/72-scale 3-view drawing, and 2 color side-view drawings. "Le Breda 65: 1ere partie" 10 pages including 19 photos, a 2-page cutaway drawing, color cover painting, and 2 color side-view drawings. "Les Avions Francais dans la Luftwaffe, 1940-1945: 2eme partie" 4 pages including 10 photos and 3 color side-view drawings. "L'Aviation Italienne dans la Campagne de Macedonie et d'Albanie. 1915-1918: 1ere partie" 3 pages including 5 photos. "Lea Farman F.222 de la Marine" 7 pages including 14 photos and 4 color side-view drawings. "Le Fairey Gannet: Maquette Dynavector Air Models au 1/48eme" 3 pages including 7 color photos.

**#31 Octobre 95** (52 pages) "Le Douglas B 66: 1ere partie" 5 pages including 14 photos and a 2-page cutaway drawing. "Mes Annees a la 15eme Escadre" 7 pages including 25 photos (mostly Farman 222/4). "Nom de Code Morse: Le Supermarine Walrus dans l'Aeronautique Navale" 3 pages including 8 photos and a color side-view drawing. "Le Breda 65: 2eme partie" 6 pages including 11 photos and 2 pages of 1/72-scale drawings. "Du V-1 au V-12 Les Debuts de Jerry Vultee: 4eme partie" 4 pages including 19 photos of USAAF a/c. "L'Aviation Italienne dans la Campagne de Macedonie et d'Albanie, 1915-1918: 2eme partie" 3 pages including 5 photos. "Les Premiers Chasseurs Embarques Nakajima, Le A1N Type 3: 1ere partie" 6 pages including 13 photos, a color cover painting of a A2N2, and 2 color side-view drawings of A1N1/2. "Les Avions Francais dans la Luftwaffe, 1940-1945: 3eme partie" 4 pages including 16 photos and 3 tables listing accidents with German LeO 451T, Caudron C-445, and Dewoitine 338. "Breguet 693: Maquette Phenix au 1/48eme" 3 pages including 6 color photos of model.

**#32 Novembre 95** (52 pages) "Le Douglas B-66: 2eme partie" 7 pages including 16 photos and 4 1/72-scale side-view drawings of variants. "Les Premiers Chasseurs Embarques Nakajima: 2eme partie - Le A2N Type 90" 7 pages including 17 photos, 2 pages of 1/72-scale drawings, and 2 color multi-view drawings. "L'Aviation Italienne dans la Campagne de Macedonie et d'Albanie 1915-1918: 3eme partie" 3 pages including 3 photos. "Les Curtiss H-75 A-7 de la ML-KNIL: 1ere partie" 7 pages including 14 photos and 2-page cutaway drawing. "Les Seagull and Walrus de la Marine Argentine" 3 pages including 8 photos and a color side-view drawing. "Les Vultee V-11 Turcs" 5 pages including 14 photos. "Le Breda 65: 3eme partie" 4 pages including 9 photos and a color side-view drawing. "Le Potez XV et ses Derives: 1ere partie" 5 pages including 11 photos, color cover painting (Polish),

and a color side-view drawing (French). "Un Supermarine Walrus Francais: Maquette Smer au 1/48eme" 4 pages including 10 color photos of a magnificent model.

## GERMANY

**MITTEILUNGEN** (IPMS Germany, Bergengruenstrass 5-7, D-1000 Berlin 38; 12 issues DM 60.00 Europe, DM 65.00 USA, DM 70.00 Japan, DM 75.00 Australia).

5/95 (40 pages) Nothing of small-air-force interest.

## GREECE

**NEA** (IPMS-Greece, PO Box 79167, 175 05 Amfithea, Athens) 4 issues \$25.00 for first year, \$20.00 for next year. Includes English summary. [Back issues are available from IPMS-Greece.]

2/95 (48 pages) "Dornier Do 28D Skyservant in Hellenic Air Force" 9 pages including 7 color & 3 b&w photos, 3 pages of drawings of color schemes, and table. "Sopwith Bat Boat" one page with 1/72-scale drawing. "IPMS-Greece Annual Competition 1995" 11 pages including 32 color photos. "Spanish Civil War Air Forces (Pt. 2)" 6 pages including 5 photos. "ANT-1 Catalina, Pt. 2: Return to Authenticity" one page including 2 color photos.

## ITALY

**IL NOTIZIARIO** (IPMS Italy, CP 182, 41100 Modena Ferrovia; one year 50,000 Italian Lira in Europe or US \$50.00 overseas).

2/95 (32 pages) "Nieuport Triplane" 6 pages including 10 photos and 1/72-scale drawings. "Junkers Ju 188 E-1" 10 pages including one photo and 3 pages of sketches of details, 2 side-view drawings, and numerous conversion sketches. "MiG-3" 4 pages on building the 1/48-scale Hi-Kit including 5 photos and 1/24-scale drawings of two variations of the forward fuselage.

**JP-4** (JP-4, CP 1550, 50100 Firenze; L 27.000 Europe, L 30.000 elsewhere).

**#8 Agosto 95** (100 pages) Color photos: Irish AF Gulfstream IV '251'; Indian AF Boeing 373 'K2413'; Finnish Frontier Guard Dornier 228; Saudi Arabian PC-9; Czech L-59; Finnish F/A-18D. "Lipetsk" 6 pages including 12 color photos of current Russian a/c. "Esercito 95" 6 pages including 9 color photos of current Swiss a/c.

**#9 Settembre 95** (100 pages) Color photos: Russian Falcon 900 'RA-09000'; Thai AF G.222; Italian Piaggio P.180 'MM62161'; Tunisian AN-32B; New Zealand C-130H 'NZ7002'; Croatian MiG-21bis & Mi-24; Malaysian Hawk Mk.208; Serbia/Montenegro An-2 '71374'; and Eritrian Valmet L-90TP '203'. "In Azione con i Lupo" 6 pages including 11 color photos of Italian Harriers. "L'Ami a Malta" 6 pages including 7 color photos of Maltese Alouette III and Italian AB.212. "RPV Made in Italy" 8 pages including 20 color photos.

**#10 Ottobre 95** (100 pages) Color photos: Ural Airlines Tu-154 'RA-85807' and Iceland Coast Guard Super Puma 'TP-LIF'. "Lampi sulla Jugoslavia" 8 pages on clandestine reconnaissance flights over Yugoslavia by Italian P-38s including 10 photos.

## NETHERLANDS

**MODELBOUW IN PLASTIC** (IPMS-Nederland, PO Box 40082, NL-8016 DB Zwolle).

3/95 (28 pages) "USAF Wild Weasels in Vietnam" 4 pages on modeling the F-100F including 5 photos and sketches of camouflage pattern and details. "Fokker D-23" 8 pages including 3 photos, two

pages of details and 4 pages of 1/72-scale drawings of color schemes for 'X-4' and '998' with 'oranje driehoeken' and 'zwart wit zwarte banden'.

## PARAGUAY

**MODELO TERAPIA** (Antonio Luis Sapienza, PO Box 2721, Asuncion, Paraguay. US regular issues \$3.00, specials issues \$5.00 - both sent via air mail). Agosto 1995 (7 pages) "Los Ansaldo SVA-5/10 en el Paraguay" 2 pages including 3-view drawings. "Los Cessna 172 en la Armada Ecuatoriana" 2 pages including 3-view drawing. [Editor's note: The markings on this 172, AN 203, differs slightly from those on the Naval T-41, ANE 107, shown in SAFO #73. The top view shows an "anchor" on the port wing and the serial on the starboard wing.] "Los Douglas DC-3/C-47 en Service en las Fuerzas Aereas Latino Americanas (Primas Parte)" 2 pages including 5 side-view drawings (Uruguay, Venezuela, Peru, Paraguay, & Salvador).

**Septiembre 1995** (9 pages) "Los Douglas C-47/DC-3 en el Paraguay" 8 pages including 6 multi-view drawings and table of individual a/c histories.

## POLAND

**AEROPLAN** (Agencja Lotnicza "Altair, ul. Warecka 11/36, 00-034 Warszawa.)

2/95 (44 pages) "Niezwykla Historia Latajacej Fortecy nazwanej 'Shoo Shoo Baby'" 12 pages including 28 photos and 6 side-view drawings of this B-17 in USAAF, Swedish, Danish, & French markings. "Jedyny Wielblad w Polsce" one page on Polish Camel including 3 photos and one color side-view drawing. "Mirage 5 w Deblinie" 6 pages on visit of Belgian Mirages to Poland including 10 color photos and 5 multi-view drawings. "XF 85 Goblin: cz.II" 7 pages including 14 photos and 2 pages of scale drawings (Editor's note: Best coverage of the Goblin I've seen; invaluable for anyone building the MPM kit.) "Nowe Barwy Su-22" 2 pages including 8 color photos of a new, bizarre 7 color camouflage scheme for Polish Su-22. "Chinski AWACS" one page including 3 color photos.

## USA

**WWI AERO** (15 Crescent Rd., Poughkeepsie, NY 12601; 4 issues \$25.00 USA or \$30 overseas).

**#150 Nov 1995** (148 pages) "The Wright Stuff: Part 4E - Civil Model B Hydroplane Conversions" 20 pages including 19 photos. "Camouflage and Markings of the Albatros D.II" 16 pages including 7 full-page multi-view drawings. "The Bresciani Seaplane" 2 pages including one photo and 2 small 3-view drawings. "Veneer Fuselages via McCook Field" 6 pages including 7 photos and 2 3-view drawings of Bristol Fighter variants. "AEG-Wagner Eindecker" 2 pages including 7 photos. "Swiss A/C" 2 pages with 9 a/c each illustrated with one small photo and one small 2-view drawing.

**SKYWAYS** (15 Crescent Rd., Poughkeepsie, NY 12601; 4 issues \$25.00 USA or \$30.00 overseas.).

**#36 Oct. '95** (84 pages) "The Curtiss-Wright 19R: Part 1" 17 pages including 27 photos and 4 pages of factory sketches. "The Capelis XC-12 Safety Airplane" 13 pages 16 photos and 2-page scale drawing. "Travel Air Model R Mystery S R614K: The Rest of the Story" 4 pages including 6 photos. "The Curtiss CT: Part 1" 8 pages including 10 photos and scale 3-view drawing. "The St. Louis Aircraft Corporation" 13 pages including 14 photos and scale 3-view drawings (YPT-15, PT-LM-4, XCG-5, & XCG-6). "Ford Flivvers Forever" 4 pages including 2-page scale drawing of '2318'.



**L'Aviation de Chasse de la Republique Espagnole 1936/1939**, by Juan Arraez Cerda. Hors Serie Avions No. 3, Editions Lela Presse, 39 rue Aristide Briand, 62200 Boulogne sur Mer, France.

The Spanish Civil War continues to be a source of endless fascination for both aviation enthusiasts and modelers. The latest book to feed this appetite covers fighter aircraft that flew on the Republican side. The book is published in standard format for Avions Specials: A4 size, high-quality glossy pages with lots of well-reproduced photos, and sturdy covers that will take lots of wear associated with repeated readings. This Special consists of 112 pages with copious illustrations, probably averaging over three large photos per page, and 23 color side-view drawings. The text is in French, but the comprehensive captions are in both French and English.

Aircraft covered (with number of pages and photos indicated) are: Hispano-Nieuport Ni-52C.1 (9/21), Martynside F4A Buzzard (2/4), Hawker Spanish Fury (2/3), Boeing 281 (1/1), Dewoitine D.371/D.372 (3/11), Loire Nieuport 46C.1 (2/3), Koolhoven FK-51 (3/10), Dewoitine 510 TH (1/0), Bristol Bulldog (1/2), Gourdou Leseurre GL-32 (1/1), Letov S-231 (3/7), Fiat CR.32 (3/8), Grumman CCF G-23 Delfin (5/8), Fokker D-21 (0.5/0), Bleriot Spad 91 (0.5/0), Heinkel He 51 (1/2), Messerschmitt Bf-109B (2/4), Avia BH-33.3 (1/2), Polikarpov I-15 Chato (32/88), Polikarpov I-15bis Superchato (2/4), and Polikarpov I-16 Mosca (17/33). A final chapter (6/18) covers the aircraft (FW 56, Dewoitine D.27, Hanriot H-439, MS.233, MS.341, & Moth) used by the Ecoles de Chasse. Tables provide lists of Commanding Officers (including Soviet officers) by unit, pilots lost in combat (131 pilots including 8 Soviets and one each American, English, German, Uruguayan, & Yugoslav) are listed along with the aircraft type and date of death, and pilots lost in accidents (23 pilots).

From the modeler's point of view a lot of unusual aircraft are illustrated, but most of them are unavailable as kits, and, for those that are available, the color schemes are singularly uninspiring; mostly dark-green upper surfaces with light blue under surfaces relieved only by red bands on the fuselage and wings and red/gold/purple rudder stripes. Slightly more attractive are aircraft (mostly Ni.52s & Buzzards) in the early color scheme of silver overall with roundels, large codes, and tail stripes. Spellbinding color schemes are certainly not the reason for our fascination with the fighter aircraft of the Spanish Civil War.

There is lots of information in the text, much of which can be ferreted out with a rudimentary knowledge of the French language. However, the reader with a working knowledge of French will find this book most valuable. (Now, I wish I had paid more attention in my 7th and 8th grade French classes.) Review copy provided by Michel Ledet.

**Die geheimen Wunderwaffen des III. Reiches, Die Deutschen Raketen- und Raketenflugzeugprojekte 1934-1945** (The Secret Wonder Weapons of the Third Reich, German Missiles 1934-1945), by Justo Miranda and Paula Mercado. Flugzeug Publikations GmbH., Illertissen, Germany, 1995. 181 pages, lavishly illustrated. Price unknown. ISBN 3-927132-25-X.

Aviation enthusiasts of the Spanish Civil War are familiar with the two volumes (of a projected series of seven) about 1930's aircraft already produced by this talented couple. Readers of this new work will

find the same superbly detailed analysis and illustration, as well as their usually thorough process of research, applied to a different subject and presented in a bilingual form.

The German text, with black-and-white drawings, runs from page 5 through 104; color drawings continue from page 105 through 120. Most of these drawings are in 1/72nd scale and are multiviews. German tables of specifications and an alphabetical list of all of the versions of the aerial weapons follow from page 121 through 128. A duplicate English text (without repetition of the drawings) is found from page 129 through 162, with the duplicate tables and lists on pages 163-168. Color and black-and-white photos (with captions in both languages) complete the study from pages 169 through 181.

It is likely that this work will be of great interest to at least three groups of readers: (1) WWII aviation-history investigators who previously have had to look for this information scattered through a variety of sources. The data on the projects which were never brought to operational status provide a sobering reminder of what might have been had the war continued much longer. (2) WWII veterans, especially those in Allied Forces whose units became targets of these weapons (e.g. convoys in the Mediterranean and Bay of Biscay attacked by guided glider or rocket bombs such as the "Fritz X" or Henschel Hs 293). (3) Scale modelers who will find the 1/72nd-scale color drawings useful for building already-available kits of German aerial weapons by manufacturers such as Huma, MPM, Condor, Cooperativa, Czechmaster, etc. This book is very well done and highly recommended.

Tom Sarbaugh (SAFCH #497), #450 Boynton Ave., Berkeley, CA 947071702, USA.

"The ML Museum at Soesterburg has a number of books that may be of interest to SAFO readers. (1) **Fokker D.XXI Part 1**, F. Geldhof (out of print). (2) **Fokker D.VII**, N. Geldhof, (3) **Convair PB-5(A) Catalina**, N. Geldhof, (4) **De Havilland DH-89B Dominie**, N. Geldhof, (5) **Farman HF-20/HF-22/F-40**, H.J. Hazewinkel, (6) **Fokker D.XXI Part 2**, F. Geldhof, (7) **Gloster Meteor F Mk 4**, M. Coenen and N. Geldhof, (8) **Gloster Meteor T Mk 7**, M. Coenen and N. Geldhof, (9) **Lockheed PV-2 Harpoon**, N. Geldhof, (10) **Lockheed P2V-5 Neptune**, N. Geldhof, (11) **Lockheed P2V-7B**, N. Geldhof, (12) **Fokker D.16**, F. Geldhof, (13) **Lockheed 12-212**, G.J. Casius and N. Geldhof. The price for each of these is £6.00 except for #12 which is more luxurious and costs £12.50. Add £2.00 for postage.

"One thousand of each volume were printed and there are still 7000 left. For this reason, it has been decided to stop publication until a lot more of these are sold. Several other titles have been completed, including the Fokker G.1 and the Gloster Meteor FMk8, but it is very difficult to say when, or if, these will be published.

"These books can be ordered from: H. de Jong, P. de Hooghstraet 19, NL-3202 TW Spijkenisse, The Netherlands."

Fritz Geldhof (SAFCH #12), Fijnscheerderstraat 12, NL-4204 ES Gorinchem, The Netherlands.

**The Naval Institute Guide to World Military Aviation 1995**, Rene Francillon.

It has been a long time since a book on the air force of the world has been published. This book, the

same size as a Jane's, fills this empty niche in the aviation book world. With 745 pages and 1500 photos (about 1100 of small-air-force interest), the price of \$125 is not bad compared to the price of a similar-sized Jane's.

The book includes 271 pages on the air forces of the world and 455 pages on the military aircraft of the world. It would be nice to see two volumes, one on each of these topics. Many other books contain sections on the aircraft, so how many times do we need to know the span/height/weight/engine/etc of a aircraft? However, the author does a good job on listing the different variants and includes a list of which air force uses which variant and many entries include an Order of Battle.

The author states he wanted to produce a compact volume to take with him on trips. This isn't it! As a pilot who travels all over the world, this book is simply too heavy, so this is another reason I would like to see it published in two volumes.

All in all, the author has done a very good job. One exception is when he states Botswana is to be absorbed into the new South Africa. Perhaps he confused this with Bothuthatswana which he got correct. A lot of the photos are of the same aircraft in two different views on facing pages. Hopefully, there will be more variety in future editions, if any. (It's not stated anywhere if this will be an annual effort.) [Editor's note: Once every five years would be a good frequency.] If there are future editions, hopefully, they will not be like Jane's and use the same photos edition after edition.

The reader should be aware that some aircraft included in the air force section have been withdrawn from service and other are included that I do not think are yet in service.

How valuable a references is this book? I can only tell you that next to my computer I keep readily at hand the following: "The Air Force of the World" by Green and Fricker (37 years old and never equalled), "Central American and Caribbean Air Forces" by Dan Hagedorn (hopefully he'll get around to South American air forces), "The Encyclopedia of the World's Air Forces" by Michael J.H. Taylor (8 years old), and this book. [Editor's note: That's pretty good company.]

J. Chris Thornburg (SAFCH #175), Mailbox #41, Caller Box 10005 CK, Saipan, MP 96950-9306, USA.

"I'd like to let the membership know that my new book, **Alae Supra Canalem: The Sixth Air Force and Antillies Air Command**, will be released from the publisher, Turner Publishing Co., PO Box 2101, Paducah, KY 42002-3101 (telephone 502-443-0121) at \$39.95. In view of some of the exotic aircraft used in that theater, SAFO readers may find portions of this title of interest."

Dan Hagedorn (SAFCH #394), PO Box 682, Centreville, VA 20220-0682, USA.

"I would like to announce to the readers of SAFO that the Mexican aviation magazine, **AMERICA VUELA**, will soon be publishing the first volume in a planned series of softcover pictorial histories of Mexican aviation. This first volume, titled **Historia Grafica de la Fuerza Aerea Mexicana**, will cover the Mexican Air Force from the Mexican Revolution (aircraft of General Pancho Villa) to today. If it is a success, a second volume will follow on the aircraft of the Mexican Navy.

"Historia Grafica de la Fuerza Aerea Mexicana" costs US\$ 20.00 (120.00 New Mexican Pesos) from the publisher. Please do not write the author of this

letter."

Santiago Flores (SAFCH #588), PO Box 430910, San Ysidro, CA 92143-0910, USA.

[Editor's note: For address and ordering information see the review of recent issue of AMERICA VUELA in the magazine section of this issue of SAFO.]

**South African Air Force at War**, Martin Couw and Stefaan Bouwer. 280 pages with 875 photos and 35 color profiles.

This is a revised edition of the original which came out in 1989. The new edition is printed on gloss paper (the original wasn't). The photos are all b&w until the start of the section on Angola and then you get some color. Anyone interested in the SAAF should pick up a copy. I recommend it highly. It's printed in South Africa, but I got mine through Midland Counties Publication in the UK. Price: £ 25.00 plus 15% for surface post. Credit cards accepted.

Also, I've had good dealing with a South African bookshop: Clarke's Bookshop, 211 Long St., Capetown 8001. They has 'On Wings of Eagles'. Ron Nass (SAFCH #970), PO Box 2341, Ellicott

City, MD 21041-2341, USA.

**King Ottokar's Sceptre**. A few issues back, while reviewing the decals for the Bordurian Bf-109F on Blue Rider Comic Designs sheet CD-001, I expressed ignorance of the source of this scheme, a book in the series "The Adventures of Tintin". A telephone call for SAFCH member John Gallaspy soon set me straight. It seems that having only girl-children myself, I had missed out on an international publishing phenomena. Subsequently, John sent me a copy of "King Ottokar's Sceptre" from which I learned that Tintin, created by Herge, has been around since 1947 and his books have appeared in 32 languages. From the English-language edition John sent, all editions apparently use the same drawings with the different languages fitted into the "balloons" although guns go "Bang" and telephones go "RRRRing", so the translations are a little more sophisticated than it might appear at first since I doubt it is guns go "Bang" in Chinese or Arabic.

"King Ottokar's Sceptre" consists of 62 pages of colorful, panels bound between sturdy glossy covers; obviously these books are meant to be kept

and cherished. I particularly like the 3-page illustrated history of "Syldavia" which is so realistically presented that it could fool many people if presently separately. The aviation enthusiasts will appreciate the realistic drawings of the aircraft which play a minor role in the story: There's the trimotor SM-73 'OO-AGE' which takes Tintin to Prague where an unmarked Waco takes him to Syldavia. Later, while escaping from villains Tintin crosses into Borduria where he steals a Bordurian Bf-109F (the subject of the Blue Rider decals) and flies back to Syldavia. After foiling the villains, Tintin leaves aboard a 4-engine flyingboat 'SY-AMO'; the identity of the flyingboat eludes me, but the prefix 'SY-' is properly specious. All in all, a rip-roaring adventure that will charm the child while not boring the dad.

Blue Rider has released a second sheet in their Comic Designs series. CD-004 (no mention of CD-002 or 003) with a subject that will more familiar to US modelers. This sheet "Blackhawks" provides decals for a C-47 and 3 Grumman F5F-1 Skyrockets from American's WW2 comic book Air Aces.

[Editor's Note: King Ottokar's Sceptre" and the Blue Rider decals are available as a special package from the SAFCH for \$10.00.]

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**Insignia**, Vol. 1, No. 1, November 1995.

The eagerly-awaited magazine from our friend Richard Humberstone of Blue Rider is here; and what a joy it is. From cover to cover, it is packed with information on the small air forces. Before describing the contents, I would like to address the quality of the production. The 36 pages of this first issue are printed on high-quality, glossy paper of A4 size and saddle-bound within sturdy covers. One would hardly expect less from Blue Rider. Enough of this - on to the contents.

"Carinthian Air War" 6 pages including 5 photos and 4 pages of drawings of 12 aircraft (Slav H-B.C.I, Phonix D.I, D.II, & C.I, UFAG C.I, Albatros D.III, and Austrian H-B.C.I). The text discusses historical background, organization of air units, and air combats. "Lithuanian Air Force: 1993/1995" 3 pages including 6 photos and 3 side-view drawings (L-38, An-2, & Mi-8). "Croatian Mil Mi-8" one page including 2 photos and one side-view drawing. "Albatros D.III (Oef)" 3 pages including discussion of Austro-Hungarian color schemes and 12 side-view drawings (4 Polish). "Lithuanian Fokkers" 2 pages including one photo and 6 side-view drawings (with plan views where appropriate) of Fokker D.VIIs. "Polikarpov R-1" 3 pages including 5 photos and 4 side-view drawings. "Operation Deny Flight" a 3-page chronicle of UN flights over Bosnia; includes drawings of 2 Bosnian Serb aircraft (An-2 & UTVA-75).

"Air Force Insignia". This series describes national insignia with drawings, discussion, and a list of representative a/c. "No.1 - Croatia" 6 insignia from WWII to the present. "No.2 - Serbian Krajina" presents the one insignia used before Krajina was recaptured by the Croats in August 1995. "No.3 - Republika Srpska" 4 types of insignia used on Bosnia Serb a/c. "No.4 - Bulgaria" 12 types of insignia used from the Balkans Wars of 1912-14 to the present; for WWI it is stated that "A narrow Green recognition stripe running along the trailing edge of the aircraft's wing was all that distinguished it as a Bulgarian machine."

Other regular department are: "Air Force Digest" one page with discussion of the air forces of Slovenia (with list of serials of a/c currently on strength), Croatia (with list of current bases and

commanders), Bosnia and Herzegovina (with list of a/c), and Macedonia (with list of a/c and a plea for information on current roundel). "Letters and Questions" one page with every letter by a SAFCH member (Rouze of France, Cochrane of England, Wilcox of Canada, and Ristic of Serbia) with drawing of the Chechen AF insignia - "A Yellow/Gold wolf with dark detailing, surrounded by a Green ring design, on a Red Star; and a drawings of Bosko Petrovic's I-15 in Spanish Civil War. "Product Reviews" 2 page with reviews of Delta Decals Cuban sheet, Pegasus' Phonix D.I, Albatros D.Va, and Roland D.II, Blue Max Ni-28, and Pegasus and Blue Max decal sheets.

If this were not enough, each issue of Insignia will include a specially-produced decal sheet. This issue's sheet (14 cm by 7 cm) provides red stars, codes, and inscriptions for 2 of the Soviet a/c illustrated in the article on the Polikarpov R-1.

As a bonus, you also get a list of all current Blue Rider decals. Of particular note among the new releases are: BR234 Austro-Hungarian 'Sworl' Fabric, BR235 Lithuanian Fokker D.VIIs, BR236 WW1 Belgian Air Force, BR238 WW2 Slovak Military & Civil Aviation (an "updating" of an earlier sheet which hopefully corrects a color error), BR408 Spanish Air Force 1939-60 (Tiger Moth and He-111), BR409 Kampuchea/Cambodia AF, BR809 Slovene Air Force/15. Brigada.

My only reservation - no, it is a worry - is that many of the drawings of aircraft are reprints of drawings found in Blue Rider decal sheets. What effect this will have on the sale of subscriptions and decals I cannot guess. I suspect that some people bought the decals sheets only for the information. Now, they won't need the decals. However, many other people will buy the decals after seeing the drawings in Insignia. I hope that Blue Rider has done their market research correctly. Insignia and Blue Rider Decals are both too valuable to the small-air-forces enthusiast to lose either one.

North American readers can obtain Insignia from Wise Owl Worldwide Publications, 4314 W. 238th St., Torrance, CA 90505-4509, USA. Issue No. 1 is \$12 and a subscription to four issues is \$40.

Others can obtain a subscription to Insignia directly from Blue Rider for £ 24.00 surface mail

worldwide. Payment by Sterling cheque or Mastercard/VISA/Access. They will also accept Postal Money Orders or International Money Orders. They also accept US currency notes, If you pay in US dollar cheque, please add an extra £ 5.00 to cover UK bank charges. Make cheques payable to Blue Rider Publishing and send to Insignia Magazine, Blue Rider Publishing, 43a Glasford Street, London SW17 9HL, United Kingdom. Review copy provided by Richard Humberstone. [Editor's note: One example of issue #1 is available from the SAFCH Sales Service for \$10.]

**Jets**, Toute l'Aeronautique Moderne. #1 Decembre '95. Published by Envoyer a Lels Presse, 39 rue Aristide Briand, 62200 Boulogne Sur Mer, France. 12 issues 370F Europe and 420F American and Asia.

It is with pleasure that I announce the second new magazine. Jets is published by our good friend, Michel Ledet of Avions fame. Anyone familiar with Avions will expect Jets to be a high-quality magazine fill with information and color photos. They will not be disappointed.

The first issues begins with a two-page "En Bref" summarizing military aviation events around the world including such tid-bits as Hungary's order of the SAAB Gripen, Poland looking at F-16s, Tunisia receiving Aero L-59F, and the Belarus Mi-24 shooting down of the Gordon Bennett balloon (my candidate for the "Dog-Fight Double" of the year). Articles are "TAM 95" 8 pages including 18 photos of NATO a/c, "Les Breguet Atlantic dela 22F" 9 pages including 22 photos. "Dossier: L'AR 93, l'Avion d'Assaut Roumain" 10 pages including 28 photos, 2-page cutaway drawings, and 2 pages of 1/72-scale drawings, "Mirage 2000" 10 pages including 24 photos of French machines. "Revelation: Les Bombardiers Nucleaires Polonais" 6 pages including 19 photos of Polish Su-7/20/22 and the scary disclosure of the PAF's nuclear role within the Warsaw Pact ("En cas de guerre leur objectif etait le Danemark."), "Les Macchi Paraguayens" 2 pages including 5 photos. A final page is devoted to kit and book reviews including reviews of the Supermodel 1/72-scale MB-326 (with decals for Italy, Australia, South Africa, & Argentine Navy) and

MB-326K (with decals for Italy & South Africa). An excellent magazine and highly recommended to any small-air-force enthusiast who does not absolutely abhor "blow torches". Review copy provided by Michel Ledet.

**AMERICA VUELA**, No. 14, Febrero 1994: Mexican Air Force in action in the Chiapas rebellion; color photos of the IAI Arava, PC-7, and Bell 212. Article on aircraft on display around the country; 8 color photo.

No. 15, Marza 1994: Article on the Mexican-built TNCA Serie E Sonora, low-wing monoplane.

No. 16, Abril 1994: Article on Col. Ralph O'Neill in Mexico 1920-1925.

No. 17, Junio 1994: Article on FIDEA 94 Chile with emphasis on Russian participation.

No. 18, Julio 1994: Article on Russian civilian aircraft at FIDEA 94 Chile.

No. 19, Septiembre 1994: Article on the Mexican Air Force's Consolidated Model 21-M multipurpose biplane built in Canada for Mexico.

No. 20 Octubre 1994: Article on the modernization of the Mexican Air Force with color photos of F-5E, Bell 212, IAI Arava, C-130, Aero Commander, etc. Article on the Mexican Customs pilot, Capt. Abran Perez Lechuga, who rammed a contraband-carrying Cessna T-50 with a Vultee BT-13 trainer.

No. 21, Diciembre 1994/Enero 1995: Annual directory of aviation in Latin America. An article on the Mil Mi-8 Hip in service with the Mexican Navy.

No. 22, Febrero 1995: Nothing of interest.

No. 23, Abril 1995: Article on the DH Vampire Mk.III and Mk.11 in the Mexican Air Force.

No. 24, Mayo 1995: Article on the Boeing CH-47 in service with various air forces. A survey of regional airlines.

No. 25, Junio 1995: Article on the Mirage Elkan; the Belgian AF Mirage fighters for the Chilean Air Force. Survey of Latin American Air Forces.

No. 26, Julio 1995: Article on a Mexican-built Great Lakes biplane and its trip to the EAA show at Oshkosh. An analysis of global aviation from Le Bourget 1995.

No. 27, 1995: Article on the aircraft of Ing. Angel Lascrain y Osio, Mexican pioneer designer. Article on the Gulfstream V.

"Anyone interested in back issues of American Vuela, please contact the publisher, not the author of this letter: AMERICA VUELA, Estrategia Aeronautica e Industrial S.A. de C.V., Tepeji 73-A, Col. Roma Sur, 06760 Mexico D.F., Mexico. Tel (525) 564-9931 FAX (525) 564-8217.

"The price for a subscription are as follows: 10 issues of America Vuela US\$ 35.00; 10 issues of American Vuela plus Historia Grafica de la Fuerza Aerea Mexicana US\$ 48.00; 20 issues of America Vuela US\$ 55.00; 20 issues of American Vuela plus Historia Grafica de la Fuerza Aerea Mexicana US\$ 66.00. All prices include postage. Make checks of money order in the name of Estrategia Aeronautica e Industrial S.A. de C.V."

Santiago A. Flores (SAFCH #588), PO Box 430910, San Ysidro, CA 92143-0910, USA.

[Editor's note: See the book section of this issues

of SAFO for a review of Historia Grafica de la Fuerza Aerea Mexicana.]

**Jornal de Modelismo**. Assoiacao de Modelismo de Lisboa.

This, the 4th issue published by modelers in Portugal, consists of 40 well-printed A4-size pages on a variety of modeling subjects. Some of the articles are: "Viaturas Militares Portuguesas" 2 pages including 2 photos of a M3A1 White scout car in a Portuguese museum. "Uniformes Militares Portugueses" one page with sketches of medieval armor. "SA-330 Puma na FAP" 6 pages on Portuguese Pumas including one photo and 3 pages of drawings of color schemes and details. "Viaturas Militares Modernas" 3 pages on Portuguese M60A3 including 3 photos and a 4-view drawing. "Modelismo Ferroviario" 7 pages on railroad engines including 11 photos. "M4A1 Sherman 75 mm (Late Type)" 2 pages including sketches. Four pages of short kit reviews.

As you can see, not much for the modeler of aircraft. However, if you're interested in things Portuguese and read the language, this may be of interest to you. For further information, contact SAFCH member Carlos Oliveira, Av. Carolina Michaelis No.1 4D80, 2795 Linda-a-Vella, Portugal. Review copy provided by Carlos Oliveira.

[Editor's note: The review copy of available from SAFCH for \$4.00.]

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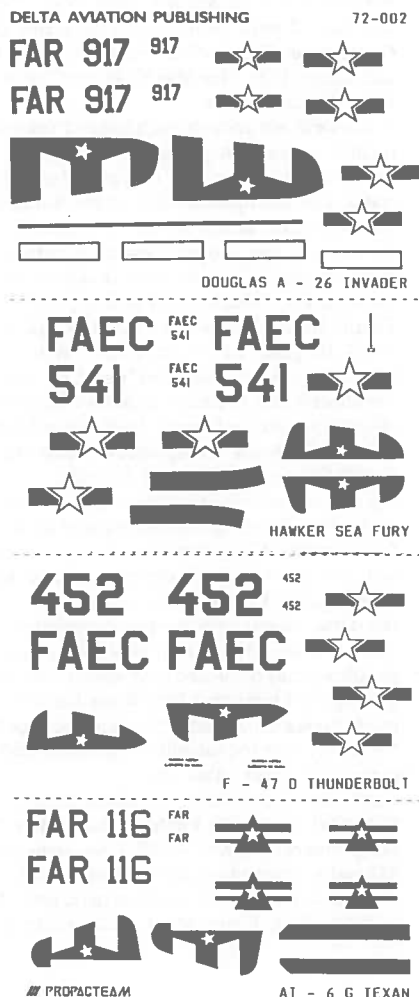
**NASA & NACA Logos**, 1/72-scale decals. Northern Virginia Modelers, Sherman J. Collings, 3313 Pathway Ct., Falls Church, VA, 22042, USA.

[Editor's note: These decals were received for review shortly before this issue of SAFO went to the printer. Since only 450 will be printed, I thought it important that they be reviewed immediately.]

The letter accompanying these decals pretty well explains things: "For years modelers have been interested in the wonderful array of aircraft in the NASA fleet. Until now finding the correct size and style logo has been next to impossible. Our IPMS chapter has decided to bid on a National Convention and in order to finance this effort, we are offering this limited edition decal. This sheet is 5 1/2 inches by 8 inches printed on quality paper by Microscale with custom art work by Percision Scale Graphics. It contains multiple sizes of NASA 'meatball' logos ranging from 1 inch to 1/16 inch. The NASA 'worm' is represented in many sizes and three colors: red, white and black. Even the new NASA logo called the 'Swoosh' is here in multiple sizes. As a bonus, NASA's predecessor NACA has its winged logo printed in several sizes! We've even included white registration numbers for you to customize. We provide a twelve page booklet with modeling suggestions and include a list of NASA aircraft with registration numbers.

"The NASA sheet is available immediately, but the quantity is limited to 450 sheets worldwide, so please order now. Each sheet is only \$7.00 postpaid (\$8.50 foreign)."

Not much to add except that the sheet is well printed in dense, vibrant colors with perfect register. Highly recommended. Get one quick, before they are all gone.



**Cuban Sea Fury, B-26, F-47, & AT-6**. 1/72-scale decals. #72.002. Delta Decals, 38 Hawksley Ave., Hillsborough, Sheffield S6 2BE, South Yorkshire, England.

[Editor's note: These comments are extracted from a letter George Farinas sent to Delta Decals. For general comments, see the "Letters" section in this issue of SAFO.]

(1) I take it that for your Sea Fury, you used the Squadron Signal illustration. This is not a correct representation of the color scheme. There were only four Cuban Sea Furies in all-metal scheme - the first four to arrive. The remainder arrived in Olive Drab. Aircraft number #541 is a museum number and was never used on an operational Cuban Sea Fury. You might want to use #505 which was the number of one of the first four a/c. In addition, the metallic Sea Furies did not have their nose and spinner painted yellow. Yellow was only applied to some of the OD a/c. Also, on the metallic Sea Furies, there was no number on the tail - only the letters FAEC. The lower left wing had FAEC titles, not the insignia you show; similarly, the upper right wing had FAEC titles. The a/c number was also carried on the gear doors.

(2) The B-26 looks fairly accurate, but the back side of the black engine had a white elongated triangle that is not shown on your drawing. The aircraft number, #917 is accurate.

(3) The AT-6 appears accurate. This was the correct color scheme applied to FAR AT-6s.

(4) The F-47 also appears to be accurate. George Farinas (SAFCH #1415), 2316 Emerald Dr., Jonesboro, GA 30236, USA.



# HURRICANES IN YUGOSLAVIA

Boris Kolka

## Introduction

In the late 1930s, the Royal Yugoslav Air Force entered into a process of modernization and re-equipment. Fighters and bombers were sought from all possible sources resulting in the importation of French and British, as well as German and Italian types. A degree of confusion and no real planning is obvious in this process. The RYAF wanted Bf-109, PZL.24, Re.2000, MS406, and Hurricane while still pursuing development of indigenous fighters.

## Hurricane in RYAF

The deal for Hurricanes came through, and, in 1938, the first batch of 12 was ordered. In 1940, a second batch of 12 was ordered. All 24 machines were delivered before the German's invaded Yugoslavia in April 1941.

The first 12 Hurricanes were standard early-model MkIs with a fixed-pitch wooden Watts propeller and fabric wings. The second batch had three-bladed DH props, metal wings, and Merlin III engines. Licence production was contracted and 60 were ordered from the Zmaj factory and 40 from Rogozarski. Before the German invasion, Zmaj managed to deliver about 20 Hurricanes (most probably 24 machines), while Rogozarski completed none. Although the RYAF Order of Battle of 6 April 1941 shows only 38 Hurricanes on charge, it is very likely that RYAF had 48 machines, as the last few from the Zmaj production line went straight to the units during the first days of the War.

When Germany attacked, on 6 April 1941, the 52nd Fighter Group of RYAF had 15 Hurricanes (163 Sq had 8 and 164 Sq had 7; both units were based at Knic airfield), while the 33rd Fighter Group had 13 (7 belonged to 105 Sq and 6 to 106; all based at Bosanski Arandjelovac). Another 3 machines were attached to the Independent Fighter Squadron in Mostar. Another 5 (possibly 6) were known to have been delivered directly to the front (Knic airfield) on 7 and 8 April.

Hurricanes mostly flew ground-attack missions, but dog-fighting was unavoidable. Four Hurricanes were shot down and 5 lost in various accidents. The majority of the remaining Hurricanes was destroyed on the ground (by bombing, strafing, or they were destroyed by the retreating RYAF aircrew). Hurricane pilots claimed 6 victories (plus one probable).

## Hurricanes in Yugoslav Peoples Liberating Army AF service

When, in the summer of 1944, the 1st and 2nd Squadron of new YAF were formed in Northern Africa (352nd and 351st Yugoslav RAF), Hurricane IIc was used for training. The 2nd Squadron used these aircraft until the end of September, but they took Hurricane IV RPs into combat. This squadron was

based at Benina and Shallufa (Africa) and later at Canne (Italy). In the spring of 1945, they moved to Zadar (Prkos airfield) in Yugoslavia. It is not known how many machines of both types were actually used by YAF, as the number of replacement machines has not been established.

Hurricane IIc never reached Yugoslavia, only the Mk IV RPs saw service after the war, the last examples being pulled out of use during 1952.

## Drawings

(a) Hurricane I in RYAF service; licence-built machine in standard three-tone camouflage. An unusual feature is the lack of national insignia on the upper surface of the wing and only one on the lower side of the left wing. The camouflage scheme is chocolate brown/dark green/tan with light grey undersides and black spinner (see also drawing C)

(b) During the German invasion, the last few machines were delivered in a dark green scheme. This color is more similar to German dark green than to the standard RYAF color. The aircraft was painted in hurry and the undersides remained in light grey. Position of national insignia is standard, as shown on drawing B (upper side left, lower side right wing).

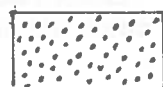
(c) This Mk II is painted in the standard RAF Desert scheme of dark earth/mid stone with light grey undersides (see also drawing D). LD 116, drawing A, had all four guns, while the other machines are known to have only two guns or none.

(d) This Mk IV RP is in the standard European scheme of dark green/ocean grey with sea grey medium undersides and sky band and spinner. As these aircraft had to fly a long distance from Italy to attack targets in Dalmatia, they always carried an auxiliary fuel tank under one wing and four rockets under the other wing. The code letter X was sky, while on aircraft on profile (d) it was light grey. This machine is also shown on drawing E.

(e) This machine, serialised 9539, but actually LD 975, was painted in overall light grey after the war. The new national insignia was in all four positions and are smaller than the repainted RAF insignia shown on drawings (c) and (d). Drawing F shows positioning of the wing markings.

Drawing A shows one of the first 12 Hurricanes delivered from UK in the standard RAF dark earth/dark green with light grey undersides and national insignia in all four positions. The standard position of these markings is as shown on drawing B.

Boris Kolka (SAFCH #1214), Vocarska 39, 41000 Zagreb, Croatia.



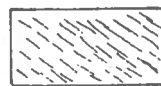
black-green



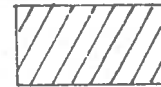
dark green



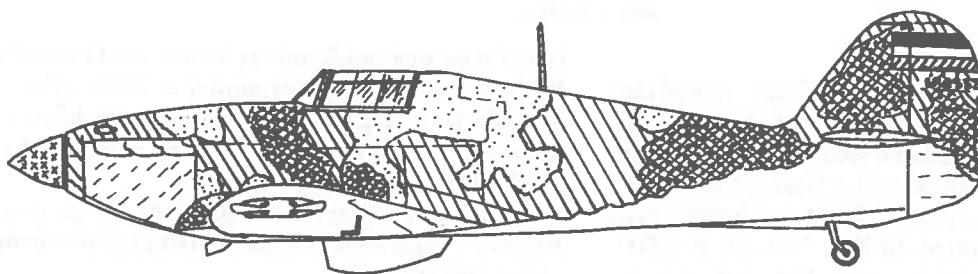
dark earth



ocean grey

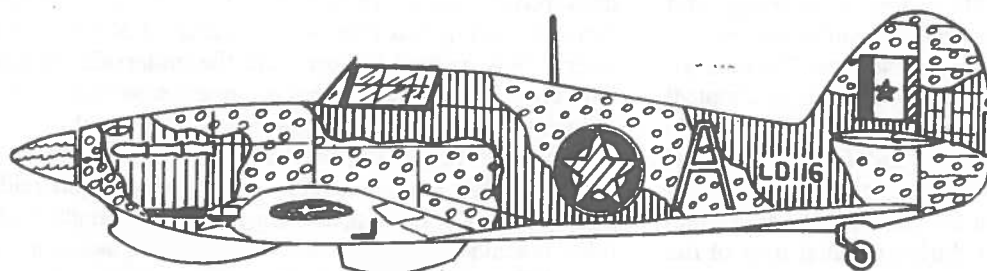
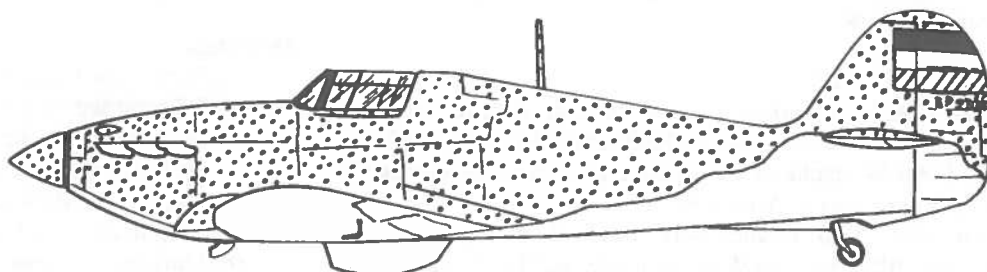


red



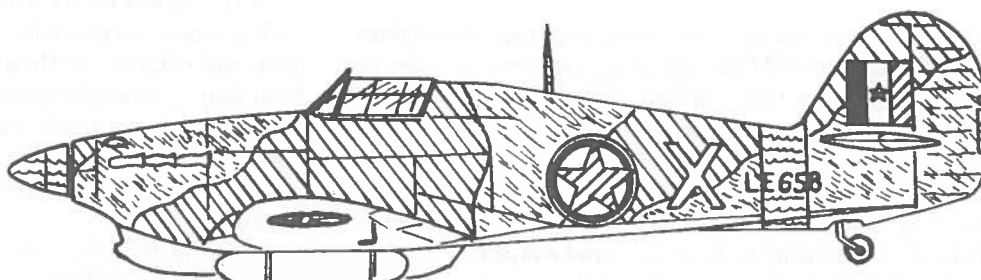
1

2

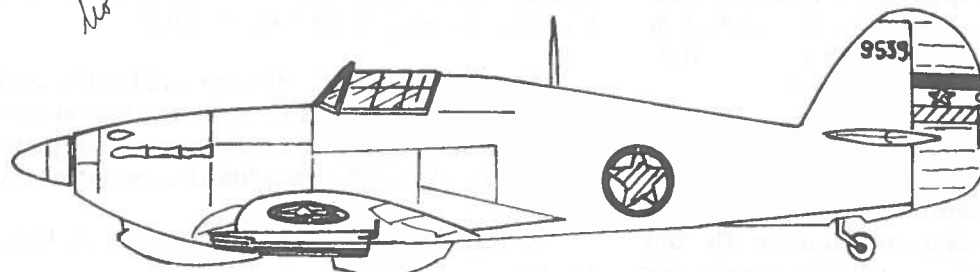


3

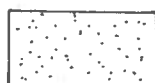
4



*holla 194*



5



tan



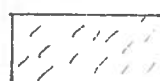
blue



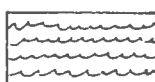
chocolate brown



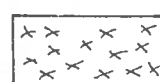
mid stone



aluminum



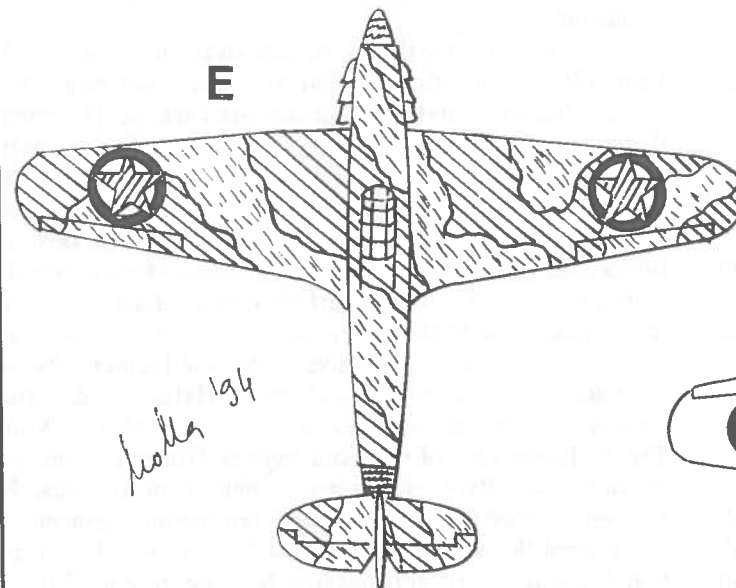
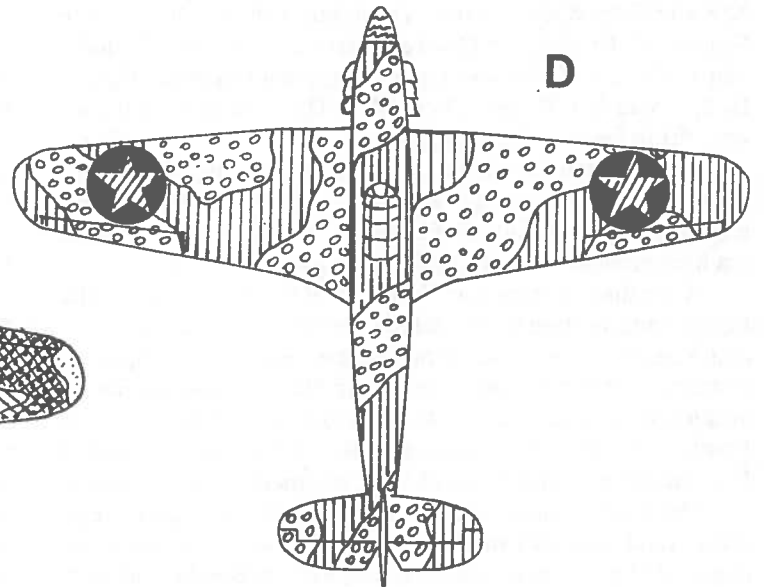
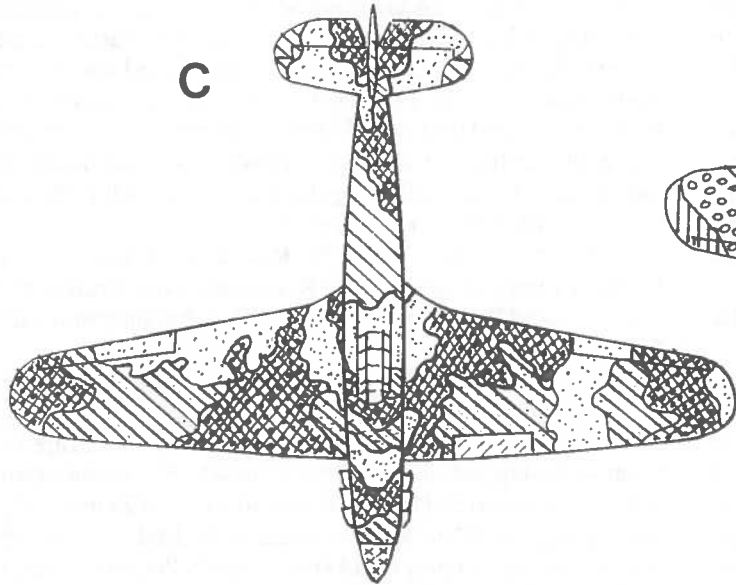
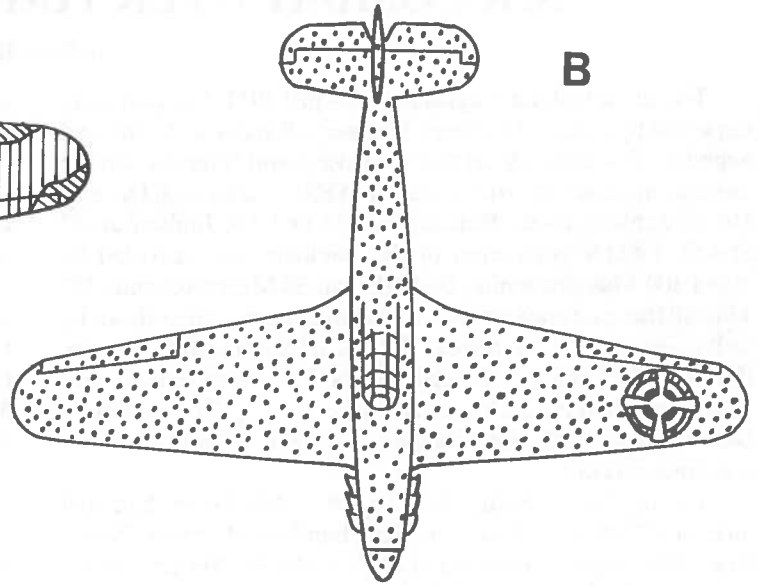
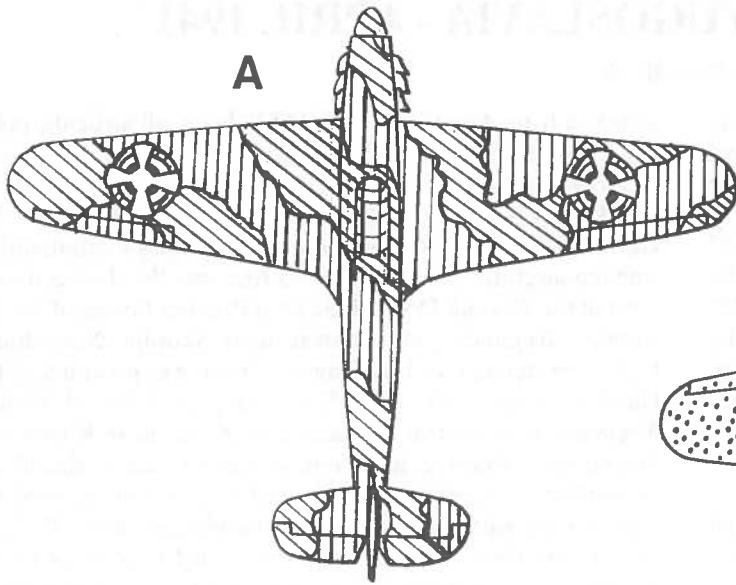
sky



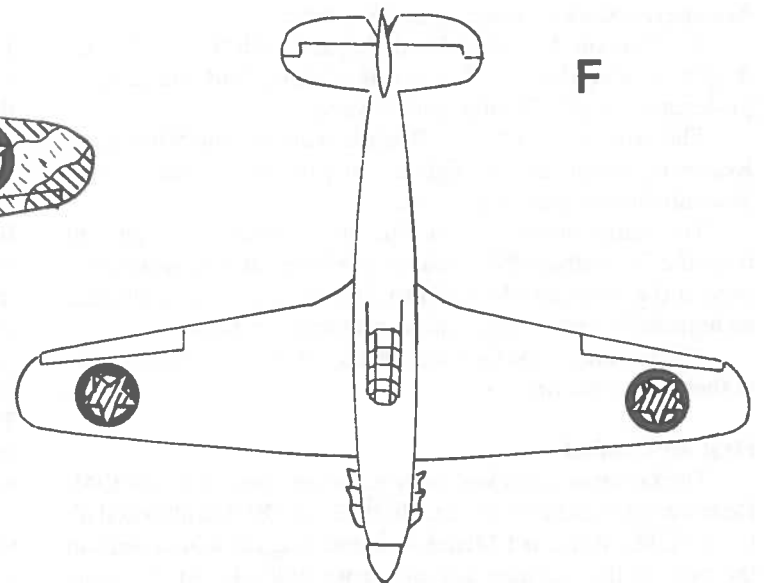
black



grey



*holla 194*



# AIR COMBAT OVER YUGOSLAVIA - APRIL 1941

Vladimir Ristic

For the attack on Yugoslavia in April 1941, the Luftwaffe deployed to Austria (Vienna), Hungary (Kaposvar, Pecuj, and Segedin), Romania (Arad and Temisvar), and Bulgaria. On the airfields in these countries were about 880 aircraft (280 Dornier Do-17, Junkers Ju-88, Heinkel He-111 and 240 Junkers Ju-87 Stuka). Fighter protection of the bombers was provided by about 100 Messerschmitts Bf-109E and 30 Messerschmitts Bf-110. All these aircraft were first-line combat machines flown by well-trained crews fresh from the aerial battlefields of France, the English Channel, and North Africa. In all, the Germans and Italians assembled 2,236 aircraft (German 1,570 and Italian 666). Of these, 1,062 were bombers, 885 fighters, and 289 reconnaissance aircraft.

Facing this armada, the Yugoslav Air Force had 420 aircraft. Of these, 147 were modern bombers (Dornier Do-17, Bristol Blenheim, and Savoia Marchetti SM.79). The reconnaissance units had 11 modern Blenheims and 120 obsolete Breguet XIX and Potez XXV biplanes. The fighter units had 102 modern fighters (61 Bf-109E, 35 Hawker Hurricane, and six IK3 and a odd collection of obsolete types (30 biplanes Hawker Fury, 8 IK-2, 2 Avia BH-33, and 2 Potez-63). Thus, the odds in the air were 6:1 in favor of the attackers.

The German advantage included tactics. Yugoslav fighter pilots were trained to fight in pairs, while the Germans were masters of the group attack. Finally, the Yugoslav Air Force did not have enough ammunition for their guns.

According to Yugoslav War Plan R41, the mission of the fighter units aviation was to defend the sky above Yugoslavia, to attack enemy airfields and other targets, and to give support to operations of the Yugoslav Army and Navy. Yugoslav military aviation was divided into 4 Aviation Brigades, 2 Autonomous Bomber Groups, one Autonomous Fighter Groups, and 7 Reconnaissance Groups which were assigned to Army aviation.

The First Aviation Fighter Brigade, with two fighter regiments (2nd and 6th) totaling 79 fighters, was protecting the region of Vojvodina, northern Serbia, eastern Bosnia, and eastern Slavonia. In the center of this region were Belgrade, Kragujevac, Cacak, Kraljevo, and Krusevac.

The Second Aviation Mixed Brigade, with the 4th Fighter Regiment and the 8th Bomber Regiment, had the duty of protecting Croatia, Bosnia, and Slovenia.

The 3rd Aviation Mixed Brigade included the 5th Fighter Regiment which had 30 fighters to protect the territory of Macedonia and southern Serbia.

The Autonomous Fighter Squadron consisted of 7 aircraft from the 3rd Fighter-Pilot School at Mostar. It was assigned to protect the whole of Montenegro, Herzegovina, and Dalmatia; an impossible task to accomplish with only 7 aircraft.

At the time of the German attack, all Air Force units were at their war-time airfields.

## First Air Combats

The Germans attacked early in the morning of 06/04/1941. Between 0500 and 0530 hours, Bf-109E and Bf-110 attacked all the airfields of the 3rd Mixed Aviation Brigade which were in the path of the German advance from Bulgaria. At the same time, all Army Aviation airfields in Slovenia and Croatia were

attacked from Austria. At about 0530 hour, all airfields, ports, and hydroplane bases in Montenegro and Dalmatia were attacked by the Italians.

The results were disastrous for the Yugoslav Air Force. The Germans destroyed, on the ground, 58 military aircraft and 20 training aircraft. The most serious loss was the destruction of most of the Dornier Do17 of the 63rd Bomber Group of the 3rd Bomber Regiment, at Petrovac near Skoplje, Macedonia. Fighter protection for this Bomber Group was provided by the Hawker Furies of the 36th Fighter Group of the 5th Fighter Regiment stationed at Rezanovacka Kosa, near Kumanovo, Macedonia. However, while one group of German aircraft attacked Petrovac, other Bf-109E, lead by a Bf-110, engaged the Furies above Kumanovo. The Yugoslav biplanes were 200 km/h slower than their German opponents and 12 out of 14 Furies were destroyed and seven pilots were killed, including squadron leaders Captains Vojislav Popovic and Konstantin Jermakov. Four other pilots were wounded. The Yugoslav Furies were not entirely helpless; Yugoslav soldiers later found one German Bf-109E and one Bf-110 which had been shot down. In the Bf-110 they found the body of a Bulgarian officer who had served as a guide for the Germans. According to German documents, during the subsequent landings back at the airfields in Bulgaria, four more Bf-109E were destroyed.

The 35th Group of the 5th Regiment, at Kosancic near Leskovac, tried to protect the Reconnaissance Groups which were attacked by Germans above Sarlinci, but they were late in taking off.

The air defence of Belgrade was assigned to the 6th Fighter Regiment. This regiment consisted of the 32nd Fighter Group with 3 squadrons (103rd, 104th, 142nd) stationed at Prnjavor in Srem and equipped with 27 Bf-109E, and the 31st Fighter Group with three squadrons (101st, 102nd, and 141st) at Zemun. Of this later group, the 102nd Squadron had 10 Bf-109E, but the other two squadrons had only 6 IK3 and 2 French Potez 63. Thus, the 6th Fighter Regiment had only 45 aircraft to oppose the German onslaught.

Also available for the air defence of Belgrade was the 2nd Fighter Regiment with 19 Bf-109E at Kragujevac (about 100 km south of Belgrade) and 15 Hurricanes Mk.I at Knic. The primary duty of the 2nd Regiment was the protection of the industrial centers in Serbia, but it was to help in the defence of Belgrade, if required. However, the commander of this regiment, Colonel Dragutin Rupcic, did not use his forces to protect Belgrade. Instead, his pilots were sent to patrol in areas where they met no Germans. Only once, at the start of German attack, was part of this regiment sent to Belgrade, but they arrived after the attackers had left. However, the pilots of the 2nd Fighter Regiment did achieve two victories: one Henschel Hs126 shot down near Paracin and another above Sveta Petka in the Morava Valley. The 14 Hurricanes of the 52nd Fighter Group at Knic were instructed to attack enemy armor units near Kacanik. Bad weather stopped further activities of this fighter regiment.

During the night of April 09/10, because of a false report that Germans were approaching Kragujevac and Knic, the aircraft of the 2nd Regiment (16 Bf-109E and 12 Hurricanes) were destroyed by their crews. Three Hurricane pilots (the

commander of 164th Squadron, Captain 1st Class Ivo Ostric, Lieutenant Mato Momcilovic, and Sergeant Pilot Veljko Vujicic) lost their lives when they tried to fly to Srem.

### **Attack on Belgrade**

The attack on Belgrade started at 0650 hours and continued until 0800 hours. The first wave of 234 Ju-87 Stukas and 160 other bombers came from Hungary and Romania. The Stukas flew at 2500-3500 m altitude and, above them, other squadrons of bombers came in waves at intervals of about 15 minutes. The third, and highest group, consisted of about 100 Bf-109E and Bf-110 protecting the bombers from attack by Yugoslav fighters. At the same time, smaller groups of fighters attacked airfields near Belgrade. In this first attack, Germans dropped 197 tons of bombs on Belgrade.

The Yugoslav air defences were first aware of the attackers when the noise of motors were heard over their airfields at Fruska Gora and Pancevo. The fighters of the 31st Group at Belgrade took off and intercepted the first enemy formations above the city of Belgrade. In pairs, Yugoslav pilots bravely went into battle. They shot down a few bombers before the German fighters reacted and the fight between fighters began. The Germans had better tactics and many more aircraft. Because it was difficult to distinguish between Yugoslav and German Bf109Es, the German fighters concentrated on the IK3s.

In this battle, 31st Group lost Sub-Lieutenant Dusan Borcic, who was flying an IK3, and the Commander of 102nd Squadron, Captain Milos Zunic. Captain Zunic was able to shoot down one German bomber before his plane was hit; he successfully bailed out of his crippled aircraft, but Stuka gunners killed him during his decent. In the same fight, six pilots from 31st Group were wounded.

The 32nd Group (airfield Prnjavor) with 19 Bf-109E took off to intercept the attack on Belgrade. They intercepted the Germans above eastern Srem and succeeded in shooting down few bombers, but they could not stop the attack. This group also had few damaged aircraft and wounded pilots.

The next three German attacks on Belgrade came at intervals of 2 hours. The second attack, with 57 Stukas under the protection of 30 fighters, came between 1000 and 1100 hours. The third attack with 94 bombers protected by about 60 fighters came at 1400 hours, and at 1600 hours, from Romania, came a group of 99 Stukas with 60 fighters. Some fighters and Stukas used their guns to kill civilians who were trying to escape from the burning city.

On this first day of the war, units of 6th Fighter Regiment made 140 sorties. Rules drawn up in peacetime stated that an aircraft could perform one, or a maximum of two, flights in one day. Some aircraft from the 6th Regiment took off 8 to 10 times that day. The regiment lost 13 pilots (6 dead and 7 wounded) and 23 aircraft (8 shot down and 15 damaged). Also killed this day, besides Zunic and Borcic, were Sergeant Leader Karlo Strbenk, Sergeant Leader Milutin Petrov, Sergeant Milivoje Boskovic, and Lieutenant Dobrica Novkovic. Captain Zivica Mitrovic from the 2nd Fighter Regiment, who decided on his own to go to Belgrade, was also killed. His wing-man was shot down and badly wounded.

### **The Second Day of Attacks**

The German attacks on Belgrade continued during the night. About 16 two-engine bombers came over at 2300 hours

and dropped bombs on a city already in flame. The next day, 07/04/1941, attacks continued with smaller formations. During the morning, the Germans sent 36 Stukas protected by 20 fighters, and, in the afternoon at 1600 hours, from Hungary came a group of 24 Stukas with 20 Bf-109E.

The bombing of Belgrade continued on 10/ and 11/04/1941. During these two days, about 60 Ju-87 took part.

The 6th Fighter Regiment had only 22 aircraft left, but continued to fight. Four interceptions were made, during which the regiment did not lose any pilots. However, about 1600 hours, a large formation of Ju-87 with a strong fighter escort was met by 10 fighters from the 32nd and 6 from the 31st Group. They intercepted the German formation over Indjija (about 30 km from Belgrade). The battle started with a coordinated attack by the Yugoslav fighters, but soon settled into numerous individual duels. The Yugoslavs lost 8 aircraft and 4 pilots killed: Captain Miha Klavora, Sub-Lieutenant Jovan Kapesic, Military Clerk-Pilot Branislav Todorovic, and Sergeant Leader Vladimir Gorup.

Later, that same day, German reconnaissance aircraft reconnoitered the airfield of the 32nd Group and, soon after, bombers came. The airfields around Belgrade were also bombed.

A few pilots flew to the airfield at Veliki Radinci near Ruma on the evening of 07/04/1941 and the rest of pilots followed on 08/04/1941. The remaining 14 fighters of the 6th Regiment were reinforced on 08/04/1941 with 5 Hurricanes of 105th Squadron of the 4th Fighter Regiment from Banja Luka. This reinforcement did not help, when on 11/04, when Belgrade was attacked again, this unit was not informed of the attack. Then came the order that all air and ground defences of Belgrade should be abandoned and that all bridges were to be destroyed. Because of bad weather, the 6th Regiment could not fly to Sarajevo and all their aircraft were destroyed early on the morning of 12/04/1941 by their crews (11 Bf-109E, 5 Hurricanes, and 3 IK-3) when the Germans were only 15-20 km from their airfield at Veliki Radinci.

During the fighting above Belgrade, Yugoslav pilots and anti-aircraft artillery shot down over 40 German aircraft and about (according to commander of the German 4th Air Fleet, General Alexander Lohr) 10% of aircraft which came back to airfields in Bulgaria, Romania, Hungary, and Austria were damaged.

### **Fighting above Rovine**

On the other side of country, the 4th Fighter Regiment, with 18 Hurricanes and 8 IK-2 near Banja Luka, were attempting to protect Croatia, Bosnia, and Slovenia and to support the 8th Bomber Regiment. During the first three days of the war, aircraft of 4th Regiment patrolled between Banja Luka and the Austrian border, but only two of their aircraft had short fights with German Bf-109E which they intercepted over Maribor. On 09/04/1941, two squadrons of German Bf-109E cruised above Aleksandrovac (near Banja Luka) while a third squadron attacked the airfield of the 8th Bomber Regiment near Rovine. The first Yugoslav aircraft which arrived to do battle with this strong force was a lone IK-2. A whole squadron of Messerschmitts attacked, but the Germans only succeeded in interfering with each other. Meanwhile, the Commander of 34th Group, of the 4th Fighter Regiment, gave orders to all fighters to intercept the Germans. All available aircraft; 6 IK-2 and 8



Hurricanes, took off participating an air battle between 27 German fighters and 15 Yugoslav fighters. After 7-8 minutes, the Germans flew to Austrian border. One German aircraft was shot down by Sergeant Tomic. The Commander of the 106th Squadron, Captain Dragisa Milljevic, was killed when his Hurricane was shot down. A second Hurricane was lost, but its pilot, Sergeant Pesic, safely parachuted with slight burns, and one IK-2 was lost and its pilot, Sergeant Stikuc, was seriously wounded. But, on this day, the 8th Bomber Regiment was saved.

After a few small battles during the period 1013/04/1941 during which the pilots of 4th Fighter Regiment shot down one Ju-88, the Yugoslav crews destroyed their remaining aircraft on 14/04/1941.

#### **Battles above Mostar and Podgorica**

The fighters of the 3rd FighterPilot School had some success in battles with the Germans and Italians who bombed Mostar, Sarajevo and Podgorica. Early on the morning of 06/04/1941, 3 Yugoslav Hurricanes and 2 Bf-109E intercepted a Italian and German bombers above Mostar and chased them out over the Adriatic Sea, shooting down two of the escorting Italian Macchi MC.200. The same day, at about 1200 hours, they shot down one Italian Cant Z.1007, and, at about 1500 hours, they destroyed a German Ju-88. In the evening, they damaged an Italian reconnaissance aircraft.

The same day, at about 1200 hours above Podgorica, there was an uneven battle between 2 Yugoslav Avia BH-33 and 15 German Bf109E. The Germans were lead by their ace, Minherberg. One of the Avias was destroyed and its pilot Sub-Lieutenant Milojevic was killed. The other Avia crashed into a mountain and the pilot, Sergeant Cvetkovic was killed (on his 29th birthday).

In the following days there were a few more battles in which the last 2 fighters of 3rd Fighter-Pilot School participated. Captain Grbic intercepted one group of Ju-88 on 07/04/1941, but he was shot down and killed by the escorting Messerschmitts. On 08/04/1941, Lieutenant Rupcic probably shot down one Italian bomber. The last fight above Mostar occurred on 12/04/1941 when Lieutenant Goclec was shot down while attacking a formation of Ju-88s, but he was able to parachute to safety.

#### **Summary**

In the air battles above Yugoslavia, Yugoslav fighters destroyed more than 30 German and Italian aircraft. In exchange, they lost about 50 aircraft and 22 fighter pilots were killed.

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## **LIBERIAN AIR WAR UPDATE**

**Albert Grandolini**

[Editor's note: The author's first article on the air war in Liberia appeared in SAFO #71.]

Since the beginning of the conflict in Liberia, President Ouphet Boigny, of the Ivory Coast, supported the NPLF of Charles Taylor. It was a long tradition of the Ivory Coast to oppose any move in the area by English-speaking Nigeria. Since the death of Ouphet Boigny last year, the Ivory Coast has not changed its position in the conflict. Things reached a crisis, in May 1993, when several Ivory Coast military outposts along the border with Liberia were repeatedly bombed by Nigerian Alpha Jets. The Ivory Coast Army had previously deployed some anti-aircraft artillery along the border, including Bofor L/60 40-mm guns and 20-mm guns, which had fired on the Nigerian jets. Apparently none of them were claimed as shot down.

The Ivory Coast Air Force was since been put on alert. By early 1994, L'Aviation Militaire Ivoirienne has been operating mainly from two bases. (1) The transport fleet is based at Abidjan at the Fort-Bouet International Airport. Equipment consists of 3 Fokker 100, one Fokker 28, one Beech King Air 200, one Grumman 3, one Grumman 4, one SA-330H Puma, and 2 SA-365C Dauphin. (2) The Tactical elements are based at Bouake, about 300 kilometers north of the capital. This base is still under the command of a French Air Force officer,

Lieutenant Colonel Bourdilleau. Most of the mechanics and other technicians are also French advisors. This base houses the Escadrille de Chasse, know officially as the Mamba Squadron, equipped with 5 Alpha Jets. The aircraft are equipped permanently with a ventral 20-mm gun pod. The unit has 8 pilots, including 4 who were trained in France. Budgetary restrictions have limited each pilot to an average of 70 flying hours per year. Other aircraft based at Bouake are 4 Beech F-33C Bonanza, a lone Cessna 421, and a single Alouette III. The Alpha Jet are equipped with a wide variety of weapons, including JL-1000 rocket launchers, 250-kg bombs, BAT-120 120-kg bombs, Belouga cluster bombs, and sophisticated BAP 100 anti-runway bombs.

Since 1993, when the ECOMOG peace-keeping forces had driven NPLF rebel troops out of Monrovia, there have been numerous reports of bombing and strafing by Nigerian Alpha Jets against United Nation relief convoys and refugee camps. Nigeria has apologized for these mistakes and accidental bombings.

Albert Grandolini (SAFCH #1313), 1 Alles des Sorbiers, 93240 Stains, France.



the cross bracing.

The breathtaking part of the kit is the small sprue (11 cm by 8 cm) with ultra-thin parts. Huma has been including this type of sprue in many of their recent kits, but the use here brings this technique to its highest form. This sprue provides not only the cross bracing for the outriggers, but also the interior structure for the pilots compartment which is fully exposed under a greenhouse-like canopy. You better have a magnifying glass available, because the identification number on this sprue are really small. Each rotor head consists of at least 11 parts. The clear parts are injection molded, but they are thin, clear, and free of distortion.

The construction is difficult, but the step-by-step construction diagrams are very clear and easy to follow. A color 1/72-scale 3-view drawing illustrated 'DM + SO' which is camouflaged in the typical German dark green over light blue. Decals are provided for this machine, for the similarly camouflaged 'DM + ST' which is illustrated on the box cover, and for the all-grey 'DM + SP'. The decal sheet also provides British and US national insignia, but nowhere are these machines illustrated. Also missing is any illustrations of the two machines in Czechoslovak markings. Review copy provided by Huma Modell.

**Focke Wulf Ta 283**, 1/72-scale, injection-molded kit. Nr. 4003. Huma Modell, Kilianstadter Strasse 9, D-63454 Hanau, Germany.

Continuing their series of unbuilt project, Huma the ram-jet powered Ta 283. A long, slender nose, highly swept-back wings, a cockpit faired into a sweeping fin, and two huge ram-jets on the tips of the swept-back horizontal tail, combine to give this aircraft a quite distinctive appearance.

Huma's kit is very simple, consisting of 37 parts well molded in their usual light-tan styrene with inscribed surface detail. There is a small sprue of Huma's patented fine moldings, most for interior detail. Construction is correspondingly simple; this looks like a good weekend project. The suggested color scheme is a brown/green splinter camouflage on upper surfaces with and green mottle over blue side surfaces over light blue undersurfaces. As appropriate for an aircraft that was never built, the decals consists of 6 national insignia and two swastikas.

Huma's Ta 283 is a fine kit that should go together quickly. It's one that you can let your imagination go wild on the color scheme and markings, and is absolutely nit-pick proof. Pure fun with a clean conscience. Review copy provided by Huma Modell.

**DFS 346**, 1/72-scale, injection-molded kit. Nr. 4002. Huma Modell, Kilianstadter Strasse 9, D-63454 Hanau, Germany.

The DFS 346 was a rocket-powered supersonic research aircraft with the pilot lying prone in the extreme nose of bullet-shaped fuselage with highly-swept-back wings and a 'T' tail. It is one of the few late-war German projects that actually was built, but not during the war and not in Germany. It was built and tested in Russia by German technicians as the 'Samoljet 346' (sic) in 1949-50.

The simplicity of the airframe is reflected in the simplicity of the Huma kit. A single sprue of light-tan styrene contains the 15, or so, parts required to construct the main airframe. The prone-pilot's position requires a bit more finesse. A small sprue of Huma's super-fine moldings provides most of the interior detail which, however, will be mostly invisible after inserting into the nose of the aircraft and capped off by a hemispherical transparent nose

cap. A little modeling excitement is provided by a pointed transparent nose section that fits over the hemispherical nose cap. Inside this pointed nose is a tripod-supported instrument probe that extends forward of the nose. Huma's injection-molded transparent nose sections are thin and clear so that all this will quite visible on the finished model.

The instruction sheet suggests a conjectural color scheme of green mottle over dark grey upper surfaces over light-blue undersurfaces. The small decal sheets provides German national markings, and Soviet red stars, although there are no illustrations of the Soviet scheme anywhere in the instructions.

The now-defunct Russian publication AC, in its 1/91 edition carried an article on the Samolet 346 which included 1/72-scale drawings, a series of photos of the 346 tucked under the wings of a B-29 (not Tu-4) '256'. Also included a side-view drawings of the 346 and the B-29. None of these photos show red stars on the 346.

Huma's kit of the DFS 346 is a simple kit that will go together quickly although the complicated nose structure will give you enough of a challenge to keep your interest. However, if you decide to build the B-29 mothership, you'll have a unique addition to your collection. Review copy provided by Huma Modell.

**Klemm Kl 25**, 1/72-scale, injection-molded kit. Nr. 3004. Huma Modell, Kilianstadter Strasse 9, D-63454 Hanau, Germany.

The last of Huma's quartet of new releases provides something for the modeler who believes that a real flying machine must have wings and a propeller. The Klemm Kl 25 is a low-wing, two-place, open-cockpit training/touring aircraft. The Huma kit of the Kl 25 is nicely molded in light-tan styrene with excellent rib detail on the wing and tail surfaces. A mere 34 parts, including interior detail mostly of Huma's super-fine molding, completes this simple, but attractive model. Color drawings are provided for a Luftwaffe trainer 'PF + VN' in overall light-grey, and a civilian 'D-EZYU' in overall silver and carrying race number 'F4'. Neither of these schemes are dated, although the instruction say that the trainers served with the Luftwaffe until the end of WWII.

The Huma Modell kit of the Klemm Kl 25 a simple model that will make up into a very attractive model of an aircraft of a neglected period. Review copy provided by Huma Modell.

[Editor's note: A search of the SAFCH files turned up no information on the small-air-force use of the Klemm 25. If anyone knows of such use, please let me know so that I can pass it on to our readers.]

**SAAB T-18B**, 1/72-scale, vacuform kit. MS-30. Broplan, Janusz Brozek, Ul. Pilotow 10G/33, 80-460 Gdansk, Poland.

It seems strange that the long wait for a kit of this attractive Swedish twin-engine bomber has been ended by a kit from Poland, but it is even stranger that the version kited is the rather corpulent torpedo bomber with in-line engines rather than the better-known, radial-engined bomber. However, who can complain when you get a good kit of an exotic subject?

With their kit of the T-18B, Broplan breaks some new ground. The usual nicely-molded vacuformed sheets for the major parts are still there, but now the small parts are all injection molded. These include the propellers, spinners, wheels, landing-gear struts, tail wheel, pitot tube, control column, etc. These molding are well done, and, since there

are two identical sprues to provide parts for the two engines, this leaves some extra parts for the spares box. The only thing that may bother the more fastidious modeler is the mud guards molded integrally with the wheels, but, if desired, this is easy to correct.

The vacuform parts are molded on three sheets of medium-thickness white styrene with excellent inscribed surface detail. A nice touch is the inclusion of a wing spar which not only adds strength to the wing-fuselage joint, but insures the proper dihedral. The transparent parts are clear; the one-piece glazing for the nose is particularly well done considering the depth of the "draw". At first, I thought the inclusion of two canopies was a mistake, but, on closer inspection, I saw that two different types of framing were being provided. These are illustrated in the instructions, but there is no indication what markings are to be used if the alternate canopy is used.

With this exception, the instruction sheet includes the usual informative Broplan exploded view and split-plan 3-view drawing. The a/c shown is red 'S' of F 17 Wing based at Ronneby. The decals are good except, on my sheet, there was a little registration problem with the white outline of the red 'S'; this is probably unavoidable unless the manufacture prints the red and white 'S's separately.

Any competent builder of vacuform kits should have no trouble turning the Broplan kit of the T-18B into an attractive, eye-catching model. From the layout of the parts (wings, fuselage, and engines on separate sheets) and the inclusion of other marking on the decals sheet, I suspect that a bomber version is not too far in the future. Review copy provided by Broplan.

**PZL An-28RM Bryza**, 1/72-scale, vacuform kit. MS-31. Broplan, Janusz Brozek, Ul. Pilotow 10G/33, 80-460 Gdansk, Poland.

With their second new release, Broplan does another twin-engine aircraft while returning to the Polish scene. The An-28RM Bryza is a twin-engine, twin-tail, high-wing transport/patrol aircraft built in Poland by PZL. The three sheets of vacuform parts are again supported by two sprues of injection-molded parts. Both the vacuformed and injected parts are well molded with fine surface detail. The transparent parts are clear and well molded.

A radar dome and full interior detail are provided for a maritime patrol aircraft. The instruction sheet provides the usual exploded construction views and a split-plan, three-view drawing of '1022' of the 1 Eskadra Patrolowo-Ratownicza of the Lotnictwa Marynarki Wojennej at Siemowice in 1994. This aircraft is painted white over light blue with blue cheat lines. Polish chessboards are carried on the outside of the twin fins and below the wings. A small decal sheet provides the national insignia, serial numbers, trim around the doors, and a number of small inscriptions. Unfortunately, the instruction sheet does not specify the location of the latter.

The Broplan kit of the An-28 is not recommended for the modeler unaccustomed to vacuform kits, but the modeler with a couple of vacuform kits already on the display shelf will be able to add an attractive model to his/her collection. Review copy provided by Broplan.

[Editor's note: Next from Broplan are a 1/48-scale PWS-26 and a 1/72-scale SAAB B-18B.]

# THE ILYUSHIN IL-38 IN SERVICE WITH THE INDIAN NAVY

Peter Batuev

The Ilyushin Il-38 is a major conversion of the basic Il-18 airframe. Only the wings, with the power plants, and the stabilizer and vertical fin are similar to those of the Il-18. The Il-38 is as closely related to the Il-18 as the Boeing KC-135 is to the 707. Although it has the same dimension as its civil predecessor, Il-38's fuselage has a completely different structure. Two large internal weapons bays are located fore and aft of the wing carry-through structure. The wing was moved 2.5 m forward to compensate for the shift in the center of gravity caused by the addition of avionics. This equipment includes the BERKUT search/track multimode radar mounted beneath the nose, PLAMYA (Flame) flight digital computer, electronics for the earth magnetic field anomaly detection system with the sensor mounted in the tailboom. The crew of seven (pilot, co-pilot, navigator, radioman, flight engineer, and two weapon operators) occupy the pressurized front part of fuselage. The weapon fit includes various types of sonobuoys, depth bombs, and homing torpedoes of the AT-1 or AT-2 type.

Production of the maritime Ilyushin Il-38 began in 1969, a year after the last Il-18 turboprop airliner left Moscow's Znamya Truda (Banner of Labor) Aviation Facility, and the first Il-38 entered service with Soviet Naval Aviation in the early 1970s.

The first maritime patrol aircraft in the Indian Navy aircraft were B-24 Liberators which entered service in the early 1950s. These were replaced by ex-Air India L-1049 Super Constellations which were equipped with THORN EMI ASV-24 multimode search radars mounted below the noses. The

Indian Government was forced to review its maritime reconnaissance priorities when, during the December 1977 conflict with Pakistan, a submarine sank an Indian Navy frigate in the Arabian Sea. During the mid 1990s, there were two points of view how to organize maritime reconnaissance and patrol aviation: either under Navy or Air Force control. This issue was finally resolved in 1975 in favor of the Navy. The Navy then proceeded to evaluate a number of aircraft including Great Britain's Nimrod, the French Atlantic, and the Soviet Il-3. They even considered the aged Shackleton. The final choice of the Il-38 was based mainly on the economic relations then existing with the USSR.

Primary training of Indian Navy personnel intended to fly and service the Il-38 began in May of 1975 and was initially carried out at Hansa, USSR. The personnel were then transferred to the Soviet Navy Base at Riga, Latvia, where they were given very intensive training. The first group of pilots and specialists finished training on 24 August 1977, and the first three Il-38 (ex-Soviet) arrived at Dabolim, India, on 2 September 1977. The formal commissioning of Aviation Unit 315 took place on 1 October 1977 at the air base in Goa. The unit was called the 'Winged Stallions' after the unit badge which was painted on the nose of each Indian Ilyushin. Two other Il-38s

arrived in Goa later.

The equipment of Indian Ilyushins is the same as the Russian Il-38s except for two additional antennae on the top of fuselage to provide navigational information in the southern latitudes.

The Indian Il-38s are overhauled in Russia, and the first arrived at the Pushkin (a suburb of St. Petersburg) Naval Aviation Repair and Maintenance Facility in 1982. Since then, Indian 'Eights' (as the Il-38 is called in Russian documents) are regular visitors on the airfield near Pushkin. In 1994, two Indian Il-38 were undergoing scheduled repair and routine maintenance in Russia: IN302 received a total overhaul at Pushkin - this required six months. IN3043 arrived for the same procedure at the Moscow Aviation Facility of Ilyushin and, in December, was transferred to Pushkin for final work.

The Indian Il-38s are painted the same as Russian Il-38; overall light grey-green with black inscriptions. On the Indian Il-38s, in inscription 'Navy' appears in English on the port side and in Hindi on the starboard side. The aircraft's tactical number is painted on the nose of the aircraft and duplicated as a three-digit number on the tail as well as on lower surfaces of wings. The markings of Indian Il-38 in the 1970s and 80s was slightly different from those used today: there were no inscriptions on the vertical fin and the 'Navy' inscription was in English on both sides of the fuselage.

**Photos** (all photos by the author)

a. IN304 in hanger at Pushkin Aviation Facility, November-December 1994.

b - f. IN302 being prepared for test flight at Pushkin Airfield; November-December 1994.

g - h. IN304 in the earlier scheme; Pushkin Airfield in the early 1980's.

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[Author's note: My primary interest is the history of the Ilyushin Il-18 airliners, its military versions (the Il-38 and Il-20), and other variants (e.g. Il-20RT, Il-22, Il-24N). The enclosed article on the Indian Il-38 is, of course, not the complete story of the use of the Il-38 abroad. I would like to ask SAFO readers for help in my research, especially regarding the following: Soviet Il-38s in action during the Arab-Israeli conflict in the 1970s when they wore Egyptian markings, Il-18 in service in Africa and Asia (Libya, Algeria, Egypt, Mauritania, Vietnam, China, Ghana, Guinea, Yemen, Mali). Any information (serial numbers, civil & military registration, and photos) will be much appreciated. In return for help, I will share my information and provide photos from my extensive collections.]

## NEWS FROM POLAND

### MODELS:

Warrior Model has been reactivated after being dormant for some time. In 1/72-scale, they have just released a resin/white-metal model of the Aeritalia-Aermacchi-Embraer AMX jet. There are over 30 excellently-molded resin parts consisting of fuselage halves, flying surfaces, interior details, wheels, etc., 5 metal parts for landing gears and missiles, plus an acetate transparent canopy. Delicately-engraved panel lines, interior detailing, and very good decals place this model among the best in the multimedia kit category. The decal sheet provides for 5 different color schemes which are illustrated in the very good instruction sheet. Colors are referred to Federal Standard 595 and the decals include stenciling. The choice of color schemes are: (1) Brazilian AMX of 16 Gruppo 1 Escuadra; (2) Italian 103° Gruppo 51° Stormo Treviso-Istrana. (3) Italian 132° Gruppo 3° Stormo Villafranca. (4) Italian 14° Gruppo 2° Stormo Istrana. (5) Italian 13° Gruppo 32° Stormo Villafranca. A very good kit indeed! What about I-22 Iryda Warrior Model?

Their second new kit, this time in 1/48-scale, is the long awaited PZL P-11c. Both you and I reviewed the 1/48-scale Warrior kit of PZL P-23 Karas and we pointed out the superb decal sheet also provided markings for two P-11's and a IAR-80/81. We were expecting another great vacuformed kit, so we are surprised to find that their P-11c is in resin and white metal. Once again, Warrior has done their homework perfectly. It is the unanimous opinion of Polish modelers to whom I spoke that this kit is better than the LTD offering! The engine, cowling, wheels, and struts are better, and the whole airframe fits perfectly to reliable drawings. There are some 26 resin parts perfectly molded with delicately-engraved panel lines and corrugated Wibault panels on the flying surfaces, 12 white-metal struts, machine guns, etc., 2 acetate windshields (one spare), and formed wire to simulate the undercarriage rigging. The very good instructions and decals provides color schemes and markings for two Polish (121 Fighter Squadron or

141 Fighter Squadron) and one Romanian machines.

The second release from HitKit in a new 1/72 series entitled "Aircraft of the 1919-1920 Polish-Soviet War" is the **Ansaldo Balilla**, a little Italian WWI fighter nicknamed "The Polish Slingshot". The model consists of 26, or so, plastic parts that are as good as in Meicraft's recently-released \*SpadXIII, two etched brass frets for spoked wheels, radiator, front and rear bulkheads, and an instrument panel with acetate gauge-faces, and a acetate windshield frame. All the brass parts so characteristic of the Balilla are perfectly etched to scale. The very clear instruction sheet, in both Polish and English, and decals provide for no less than 19 machines: 12 Polish, 5 Italian, one Latvian, and one Soviet. Again, all parts fit perfectly to the drawings in Aircraft Modelworld, May 1984, and Windsock International, Vol. 6, No. 6, Nov/Dec 1990, to mention only the two most reliable references.

PANTERA has released two more Sukhoi's after their much applauded kits of the Su-22m4 and Su-22UM3K; the Su-17m3 and Su-22m3. These types differ only in that the Su-17 was the Soviet designation, while the Su-22 was the export designation for the same type. Therefore, there are no alternate parts in these kits. The decal sheets provide for two color schemes in each box: the Su-17 sheet contains two ex-Soviet machines while the sheet for the Su-22m3 is for Hungary and Libya. Full stenciling for one aircraft are provided in each kit.

### PUBLICATIONS:

**Aeroplan 2/95** contains excellent photos of newly-repainted Polish Su-22m4 with one of the camouflage color being almost a bright purple! There are great photos of a Polish Yak-9 and the story, with previously unpublished photos and color plate, of the sole Polish Sopwith Camel. **Aeroplan 3/95** is a special issue on "The Polish Air Force 1995". If you are into this theme, don't miss all the MIGs, Sukhoi's, Mils, Iskras, Bells, etc. some in special color schemes you've never seen before.

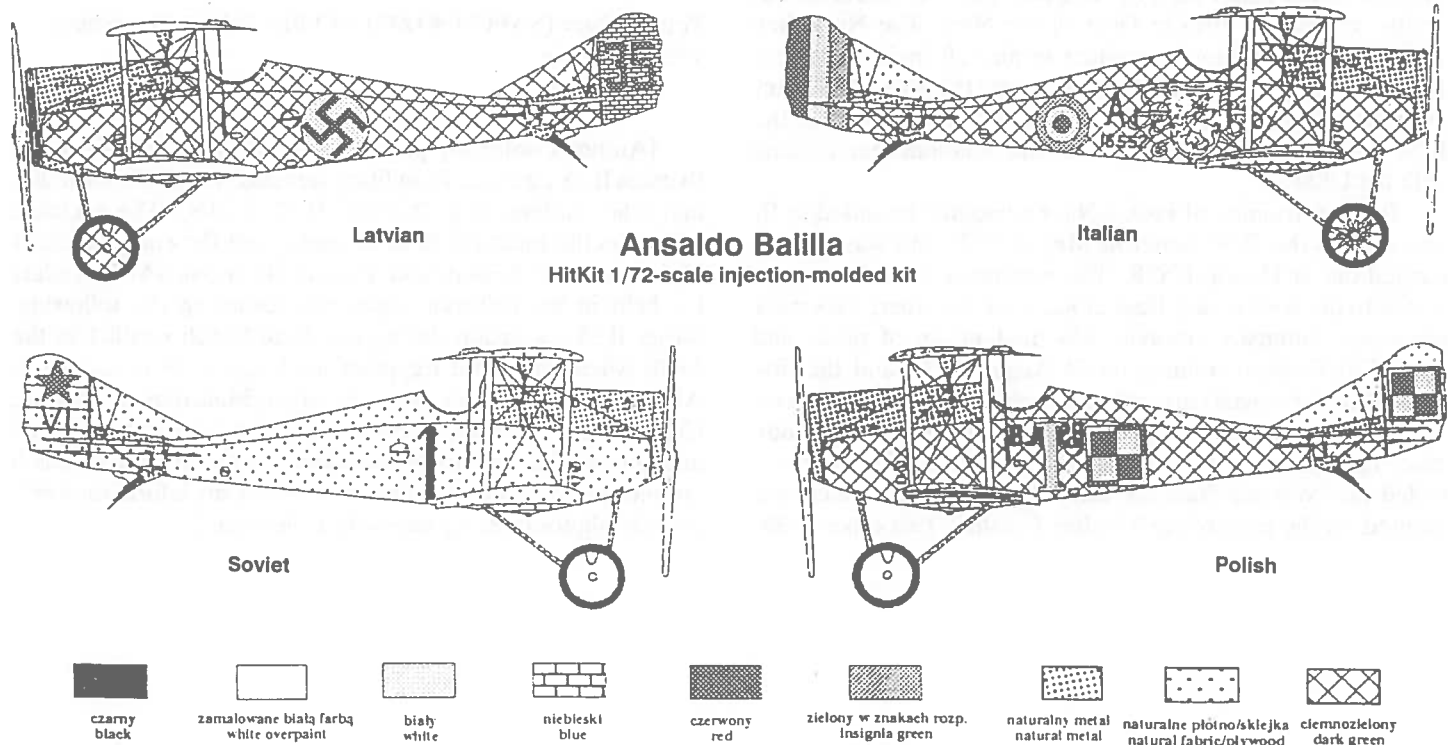
If you still haven't built your Heller or Warrior Karas, don't do it until you get the newest in the AJ-Press -Aircraft Monograph series, No. 23, on the **PZL P-23 Karas**. No where else has so much much information been gathered into 64 pages (plus full color covers). There are almost 140 photographs, many never published before, covering Polish, Bulgarian, and Romanian machines, details, 5 color plates, 5 pages of the best 1/72 scale drawings available, 2 pages of drawings (1/36 scale interior details and 1/18 scale of engine and guns), a color cutaway drawing, and cockpit drawing in color with identification of the various gauges. Absolutely the best reference on the P-23, P-42, and P-43.

### DECALS

**Techmod has released two decal sheets on Polish Thunderbolts** in 1/72 scale. One is devoted to Capt. Boleslaw Gladych's (61 FS, 56 FG, 8 AF), famous Pengie IV and Pengie V, but also includes Lt. George Bostwick's machine from the 63 FS, 56 FG, 8 AF, and Capt. Charles McBath's "Dottie Dee II" of the 61 FS, 56 FG, 8 AF. All the 'Bolts were based at Boxted, England, in 1945. The other sheets covers Capt. Witold Lanowski's machine with a personal insignia consisting of a steel-gloved hand crushing a German aircraft over the Polish chessboard. This aircraft is from the 61 FS, 56 FG, 8 AF, Boxted, England, in 1945. Also on this sheet are markings for Col. Francis Gabreski's machine from the same unit at the same time. Both decal sheets have full stenciling and are, as far as Polish machines in the RAF are concerned, are the best researched and designed so far released.

**HDL has released**, in both 1/72 and 1/48 scale, decals for Soviet, Ukraine, Polish, Yugoslav, Croatian, and East German MiG-21 bis. These are superbly researched and printed. Another hit from HDL.

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# T-BIRDS IN MEXICAN AIR FORCE SERVICE

Santiago A. Flores

## Introduction

During fiscal year 1987-88, the United State Air Force and the Air National Guard said farewell to the Lockheed T-33A jet trainers, ending a relationship that had spanned about 40 years of faithful service as a trainer, chase plane, liaison aircraft, etc. The first USAF unit to retire its "TBirds" (as they were affectionately known) was the 48th Fighter Intercept Squadron (FIS), based at Langley AFB, Virginia. This unit had five T-Birds in its inventory, of which four were being handed over to a Latin American country. The new owners were not unfamiliar with the TBird, for it had already been operating this jet trainer for about 26 years. The new owners were the Fuerza Aerea Mexicana (Mexican Air Force), which had operating the T33 since 1961.

It was during his third term as Chief of the Air Force that General de Division (1959-1965), that PA Roberto Fierro Vilalobos introduced jet aircraft into the inventory of the Mexican Air Force. Before 1961, the Mexican Air Force could respond to an emergency with propeller-driven aircraft such as the North American T-28A Trojans and the surviving examples of the AT/T-6 Texan trainers, Beechcraft AT-11 Kansan bombers, and a few Douglas A-24B Dauntless dive-bombers

## The Arrival

In 1961, two types of jets were purchased. Fifteen ex-RCAF De Havilland Vampires Mk.III single-seat, jet fighters were obtained via a US aviation company to equip Escuadron Aereo Jet de Pelea 200. Fifteen ex-USAF Lockheed T-33A-1 came from Davis-Monthan, Arizona, storage facility. A contract was signed with the Lockheed Aircraft Service Company to restore these aircraft to flying condition on March 14, 1961. The following delivery schedule was specified: Three aircraft within 165 days after the signing of the contract; seven more aircraft within 185 days after the signing of the contract; and the remaining five aircraft within 225 days after the signing of the contract.

The T-33 were purchased under the Military Assistance Sales (MAS) provisions. The first fifteen T-33A-1 were: 49-998, 51-6526, 51-6594, 51-6681, 51-9191, 51-9196, 51-9267, 51-3482, 51-9861, 53-5283, 53-5289, 53-5290, 53-5426, 53-5550, and 53-5918. The contract stated that the cost for each aircraft would be of \$2,500 dollars. The total cost to the Secretaria de la Defensa Nacional (Department of National Defense) for the 15 T-33A-1 was \$37,500 dollars. These first T-33A-1 were numbered JE-001 to JE-015. JE stood for Jet Entrenador = Jet Trainer.

## Operations

At first, both the T-33s and Vampires operated from the military side of Mexico City International Airport until BAM #1 (Base Aerea Militar = Military Air Base), Santa Lucia, could be improved to handle jet aircraft. After lengthening the runways was complete, both units transferred to Santa Lucia. After the arrival of the T33s, Escuadron Aereo 202 was transferred to the 1/o Grupo Aereo (1st Air Group) for administration purposes. This occurred on 1 September 1961. At this time, plans were already in the works to bring both jet squadrons under the control of an Air Group that would later become the

7/o Grupo Aereo; some refer it at the 7/o Grupo Aereo Jet de Pelea. This group was formed on 27 January 1962. Escuadron 202, with its T-33s, came into being on 1 January 1962 under the command of Major PADEMA (Piloto Aviador, Diplomado del Estado Mayor Aereo = Pilot Aviator, Graduate of the Air Staff) Humberto Ibarra Arias. The commander the Air Group was Tte. Col. FAPA (Fuerza Aerea Piloto Aviador = Air Force Pilot Aviator) Graco Ramirez Garrido, a World War II veteran who served with 201 Squadron in the Pacific.

The first public appearance of the T-Bird in Mexico occurred on 16 September 1961 when two T-33s participated in a military fly-over during a parade at Mexico City. This flight was led by Col. PA Amador Samano Pina, who had also flown combat operations in the Pacific with 201 Squadron.

During their first years of service, the Mexican T-33s were sent to Kelly AFB, Texas, for service and repair. The Air Order of Battle notes: 8 March 1963; T-33 JE-013 remains at Kelly AFB for services. 9 April 1963, T-33s, JE-005, -007, and -008 at Kelly AFB for services.

The Lockheed jets became movie "stars" during the Chief of the Air Force term of Gral. de Brig. PA Jose G. Vergara (1964-1970). Cinematografia Galido SA and Filmadora Chapultepec produced the movie "Aguilas de Acero" (Iron Eagles). With the cooperation of the Mexican Air Force and Escuadron Aereo Jet de Pelea 202, the filming was done on location at BAM #1 and included a number of flight scenes featuring JE-012, -008, and -007. This movie concerned the friendship and rivalry between a jet-aircraft mechanic, later turned pilot, and the squadron's best pilot. A sequel was later filmed involving the same actors and T-33s; this was called "Pilotos de Combate" (Fighter Pilots).

## Operational Losses

A number of T-33s were lost while in Mexican service. On 12 September 1967, JE-005 caught fire during take off, the pilot, Capt. PA Jose Salinas, suffering slight injuries. The aircraft was damaged and was reported to be still unserviceable in 1970.

A T-33 was totally lost on 10 March 1967 when it exploded in mid-air killing both crew members; the wreckage of the aircraft fell on the mountain El Picacho about 6 km of the town of Coacalco, Estado de Mexico. JE-012 was reported damaged circa 2 July 1970. JE-015 was lost on 17 July 1978 at Puebla, when the aircraft crashed into a school killing both pilots and two people on the ground. Fortunately, it was summer vacation and no children were in the school. Two years later, on 26 March, 1980, JE-005, which had been repaired by this time, was lost in an accident near the town of Xalostac, Estado de Mexico; both pilots were killed.

Other T-33s had been grounded due to the lack of spare parts. They, in turn, becoming the source of spare parts. This led to the decision to buy more T-33s.

## Replacements

In 1972, seven ex-Dutch Air Force T-33As were ordered from Holland. They were:

ExKLU	N Registration	USAF s/n.
M48/90884	N652	49884

M49/00370	N651	50730
M51/16528	N650	516528
M52/16953	N648	516928
M53/18760	N647	518760
M55/16531	N649	516531
M56/18824	N646	518824

These aircraft were to be delivered to the FAM via Consolidated Aero Export of Hollywood, California. For some unknown reason, these aircraft made it only to Tucson, Arizona. It was later reported that N647, 649, and 652 were in open storage at Tucson International Airport in September 1977. It was also reported that all but N650 and N651 were registered to private owners by January 1977. However, it appears that something unusual happened later for it was reported that N649, N651, and N647 did make it to Mexico as JE-016, -017, and -018 respectively. What is curious, and needs to be cleared up, is that JE-017 later went back as N651 by January 1992, but the Air Order of Battle for September 1993, shows a JE-017 on strength in Escuadron Aereo de Pelea 211. It is possible that JE-016 was acquired by September 1981 as it shows up in a photo line-up of T-33s that were participating in the 16 September 1981 parade at Mexico City. (see photo).

At the end of the year, another T-33A would be lost during the winter annual maneuvers, in the state of Veracruz, in which a force of six T-33s of Escuadron 202 were participating. JE-001 went down on 3 December 1981 near the town of Buenavista, Veracruz. The pilot bailed out at the last moment and was rescued by two local fishermen who saw JE-001 go down. The pilot in the back seat was killed. The injured pilot stated that they had lost control of the aircraft after coming out of the clouds. He suffered fractures to his legs and spinal cord. After a period of recovery, he was back on flying status, later flying Northrop F-5E/Fs with the Escuadron de Defensa 401.

On June 15, 1984, JE-010 was dropped from the service, but no reason has been found by the author.

When it came to major repairs or overhauls, the T-33s were sent to the USA. During the early 1960s, they went to Kelly AFB in Texas. This appeared to have been changed to Miami during the 1970's as indicated by photos taken in Miami of JE-002 (September 1977), JE-016 (May 1981), and JE-009 (undated). This was later changed back to Texas, when, in May 1985, Gral. de Ala. PADEMA Hector Vicente Ahuja Fuster, Chief of the Air Staff (later Chief of the Mexican Air Force from 1988 to 1994) visited the San Antonio Air and Industrial park to verify the repair work being done on the Mexican T-33s.

When the T-Birds were out for overhaul, the pilots of Escuadron 202 were without aircraft to fly. To keep the pilots current, aircraft were borrowed from other squadrons. For example, in 1972 the Escuadron had three North American T-28A Trojans (T-28-907, -968, and -934), or T-28-942 which was borrowed from Escuadron Aereo de Pelea 207 in late 1975. This particular aircraft was lost in an accident at Santa Lucia by one of the T-33 pilots.

### More Replacements

So it was no surprise that, in 1987, the Mexican Air Force purchased 30 ex-USAF/ANG T-33s at the price of \$3.5 million dollars. This information is according to a Pentagon document. However, it appears that a total of 40 were obtained and numbered from JE-019 to JE-058. The first one went through Kelly AFB circa 27 March 1989 and was from the 48th FIS.

With this influx of T-33s, the Mexican Air Force not only

brought Escuadron 202 up to strength, but, during the 1980's, they also created three more squadrons to fly these aircraft and a new Grupo Aereo. The 10/o Air Group came into existence on 16 October 1988, with the following dates for the Escuadrones: 1 February 1989 for Escuadrones 210 and 211 and 31 January 1989 for Escuadron 212.

Circa 1993, these new units were organized as follows: 2/o Ala de Combate (2nd Fighter Wing) IV Region Aerea del Sureste consisted of the 10/o Grupo Aereo with Escuadron Aereo de Pelea 210 stationed at BAM #8, Merida, Yucatan, Escuadron Aereo de Pelea 211 at BAM #2 Cd. Ixtapex, Oaxaca, and Escuadron Aereo de Pelea 212 also at BAM #2 Cd. Ixtapex, Oaxaca. These Escuadrones are all stationed in the southern part of Mexico close to the border with Guatemala and Belize along with two Escuadrones of Pilatus PC-7 (201 and 205).

With the creation of the 10/o Grupo Aereo, Escuadron 202, which for many years was part of the 7/o Grupo Aereo, now belongs to the 1/o Ala de Combate (1st Combat Wing), but is still based at BAM #1, Santa Lucia.

Of this batch of aircraft, JE-056 of Escuadron 212 was reported lost on 21 March 1992 in the region north of Oaxaca; the pilot bailed out safely.

Presently the Air Force had committed six F-5E and four T-33s to the interception of converted passenger jets that carry drugs from Central and South America to Mexico and then to the United States.

No T-33s participated in the Chiapas uprising of 1992. The participating aircraft were the Pilatus PC-7 turbotrainers. With reference to aircraft markings: Escuadron 202 has adopted a shark's mouth, Escuadron 210 at Merida has adopted an eagle's head, and one of Escuadron 212 T-33 seen with a spider's web painted on its vertical stabilizer.

At the time this was written (1995), the Mexican Air Force operates four T-33 squadrons, and it seems certain that the Mexican T-Birds will almost certainly possibly pass the 40-year mark established by the USAF/ANG. The T-Bird will grace the Mexican skies for many years to come.

### Postscript

Tragedy struck at the 16 September 1995 annual military parade in Mexico City. During the fly-by, Northrop F-5E 4003 (81-0643) of Escuadron de Defensa 401 collided with the lead T-33 JE-050 (Sqd. 212) of the T-33 flight causing a chain reaction in which two other T-33s (-049 of Sqd. 202 and -036 of Sqd. 211) collided with one another. All four aircraft went down outside Mexico City, crashing onto an undeveloped golf course just missing the houses in the town of Cuajimalpa, D.F. Four T-33 pilots bailed out at low altitude, but their chutes failed to fully open and three pilots were killed. The fourth pilot landed in a school yard experiencing no life-threatening injuries. He was later picked up by helicopter and flown to the Central Military Hospital.

Killed in the lead T-33 -050 was the commander of the 2/o Ala de Combate, Gral. de Ala. PADEMA Gonzalo Curiel Garcia along with his copilot Tte FAPA Gustavo Enrique Perez Estrada. Others who lost their lives were Mayor PADEMA Jose Rivera Gutierrez in -036 (his back-seater, Tte FAPA Gerardo Ceballos Peraza survived the accident) and Tte FAPA Mario Humberto Sanchez Garcia and Jorge Vergara Mogollon in -049. Also killed was the pilot of the F-5E, Capt 2/o PADEMA Hector Ricardo Trejo Flores.

This was first aerial accident at the military flyover in the history of the 16 of September parade.

### Known Serial Numbers of Mexican Lockheed T-33A

FAM s/n.	Known Units	Remarks
JE001	Esc.202	w/o 3-12-81
JE002	Esc.201, 210	seen 3-90
JE003	Esc.202	w/o?
JE004	Esc.202, 210	seen 3-90
JE005	Esc.202	w/o 26-3-80
JE006	Esc.202, 210	seen 3-90
JE007	Esc.202	seen 3-90
JE008	Esc.202	w/o?
JE009	Esc.202, 212	
JE010	Esc.202	w/o 15-6-84
JE011	Esc.202, 212	Monument at HQ. FAM Bldg, Mexico D.F.
JE012	Esc.202, 212	damaged 2-7-70
JE013	Esc.202, 212	
JE014	Esc.202	w/o?
JE015	Esc.202	w/o 17-7-78
JE016	Esc.202, 212	ex-KLu
JE017	Esc.202, 211	ex-KLu
JE018	Esc.202, 211	ex-KLU
JE019	Esc.202	
JE020	Esc.202	
JE021	Esc.210	
JE022	Esc.210	
JE023	Esc.210	
JE024	Esc.210	
JE025	Esc.210	
JE026		
JE027		
JE028	Esc.210	
JE029	Esc.210	
JE030	Esc.210	
JE031	Esc.202	
JE032	Esc.211	
JE033	Esc.211	
JE034	Esc.211	
JE035	Esc.211	
JE036	Esc.211	w/o 16-9-95
JE037		
JE038	Esc.211	
JE039	Esc.202	
JE040		
JE041		
JE042	Esc.202	
JE043	Esc.202	
JE044	Esc.202	
JE045	Esc.202	
JE046	Esc.202	
JE047	Esc.202	
JE048	Esc.202	
JE049	Esc.202	w/o 16-9-95
JE050	Esc.212	w/o 16-9-95
JE051	Esc.212	
JE052	Esc.202	
JE053	Esc.212	
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The author would like to thank the following people for their help in this article: Dan Hagedorn (NASM), Sr. Manuel Ruiz Romero, Sr. Carlos L. Vazquez, Sr. Hector Davila Cornejo, Ing. Enrique Velasco P., San Diego Aerospace Museum, Hector Lara Fernandez (IPMS Mexico), Sr. Mardonio Islas Perez, Ing. Adolfo Villasenor M.

Santiago A. Flores (SAFCH #588), PO Box 430910, San Ysidro, CA 92143-0910, USA.

### Photo Captions

- Lockheed T-33, JE-011, preserved on the grounds of the Mexican Air Force HQ in Mexico City, 14 Feb. 1995. (Author)
- JE-039, one of the ex-USAF/ANG T-33 on its way to Mexico. This a/c was possibly assigned to Escuadron Aereo de Pelea 202, BAM #1, Santa Lucia, Edo de Mexico. (Dan Hagedorn).
- T-33A, JE-001 airborne somewhere over Mexico possibly during the 1960's. Note the bomb racks under the wings. (Author's collection)
- JE-001 at BAM #1 during the preparation of the 16 September 1981 parade at Mexico City. This aircraft was lost in accident in December of that year. (Author's collection)
- Lockheed T-33A, JE-052, of Escuadron Aereo de Pelea 202, 7/o Grupo Grupo Aereo at BAM #1, Santa Lucia, Edo de Mexico, circa 1992. (Hector Lara Fernandez)
- Lockheed T-33A, JE-012, at the Mexico City International Airport when Squadron 202 was operating along side the De Havilland Vampire Mk.III's of Squadron 200, circa early 1960's. (Ing. Enrique Velasco)

"I would like to clear up some of the confusion regarding the Cuban Sea Furies, A-26s, AT-6s and P-47 as expressed in the review of the Cuban decals in SAFO #75. The first four Hawker Sea Fury FB-11s, which arrived at the Port of Havana in October of 1958, were all in a bare metal color scheme. I interviewed three former FAEC mechanics who had assembled these aircraft (under the tutelage of British mechanics, and one of them had photos of all four Sea Furies in this bare metal scheme. The other Cuban Sea Furies (including the two T-20s which arrived before the fall of Batista - not after as has been reported) arrived in an olive drab color scheme. They never wore an overall gray color scheme and none had a red spinner illustrated in Squadron/Signal In Action Publication on the Hawker Sea Fury. The illustration of FAEC Sea Fury '541', which appears in this same publication, is also flawed: FAEC stands for Cuban Army Air Force not Cuban Army Air Corps as stated in the caption. In addition, the military number '541' is bogus. FAEC military numbers for the Sea Furies, which were never changed after the FAR take-over, increased in multiples of fives (540, 545, 550, etc). This information is substantiated by a logbook of a former FAEC/FAR Sea Fury pilot that I have in my possession. As for the debate about the yellow spinner and cowling, it seems that Gaston Bernal, who provided the information to Squadron/Signal, along with some borrowed Sea Fury pictures from George Suarez, was correct after all. Sea Fury pilots Gen. Ralph Del Pino and Cmdr. Alvaro Prendes, the two most-decorated heroes of the Bay of Pigs Air Battle (for Castro), confirm that 'at least one of the four metallic Sea Furies had a yellow spinner'; they weren't so sure about the cowling. They also said that the OD Sea Furies never had yellow spinners (except those on display at the Giron Memorial and at the Museo de la Revolucion, both of which wear inaccurate color schemes and military numbers).

"I have photos of FAEC/FAR B-26s (in both the original all-black color scheme and the later metallic one) which show full markings. I also have photos of the Liberation Air Force B-26s at Happy Valley (Nicaragua). These wore the 'last' FAEC white-star-and-bar insignia.

"During their long tenure in the Cuban Air Force, the AT-6s wore three distinctive color schemes. The yellow color scheme, as depicted by AT-6 '116' currently on display at the former DAAFAR Museum, actually was the last scheme worn before the Communist take-over and, according to Maj. Pedro Diaz-Lanz the first commander of Castro's air force, was maintained subsequently. This information is seconded by Gen. Del Pino, later commander of the FAR. The only change was in the tail markings (from FAEC to FAR). There is one notable exception: Shortly after the triumph of the revolution, Maj. Diaz-Lanz personally acquired an AT-6 in Miami and, incredibly enough, had it painted overall white!"

George G. Farinas (SAFCH #1415), 2316 Emerald Dr., Jonesboro, GA 30236, USA.

[Editor's note: George also sent comments on the Delta Decals sheet on the Cuban ac. See the "Decals" section in this issue of SAFO.]

"Some postage stamps from the Philippines should be of interest to SAFO readers. Issued in 1973, a multicolor stamp honoring Jesus Villamor (1914-1971) shows a Philippine P-26A engaging two

single-engined aircraft. The P-26A has all upper and side surfaces olive-green. The Philippine diamond insignia is shown on the fuselage behind the cockpit and on the upper surfaces of the wing (the underside of the aircraft is not shown). The number '305' appears on the tail, but it appears to be smaller than the numeral '2' in the suspect illustration that appeared in SAFO #1. If Villamor is known to have flown a plane with '305' on the tail, perhaps this illustration is accurate.

"The other two stamps, issued in 1955, honor Jose Gozar and Cesar Basa. They are nice unicolor portraits of Gozar and Basa, but no help regarding the color scheme of Philippine a/c in 1941/42.

"I have no information on what Basa, Gozar, and Villamor did after the Japanese conquest in 1942, but obviously, at least Villamor survived the war. I would be very interested in hearing from anyone with information on either the color scheme for the Philippine P-26 or the careers of these officers." John Berger (SAFCH #1389), PO Box 23109, Honolulu, HI 96823, USA.

"I have a few additions and corrections to my 'Little Known Air Forces of the 1920s' series. The first Junkers A 20 delivered to Persia (exCH130) was c/n 463. The Junkers F 13 demonstrated at Bangkok did not remain in Siam, as John Macgregor points out in SAFO #74, but was crated in May 1926 and sent on to China early in 1927. It should, therefore, be deleted from the table listing aircraft belonging to the Siamese air force. According to Volker Koos, in Germany, who has examined log books of Heinkel pilots and other Heinkel records, Heinkel c/ns 344 and 345 were allocated to HD 43bs for Siam, but it is, of course, possible that only one was delivered. I have seen no reference to the export of these aircraft.

"Wojciech Sankowski, in Poland, sent some information on Polish encounters with aircraft of the Ukrainian air force (see SAFO #74) in 1919. In February, a Brandenburg C I of the 7th Polish Squadron forced a Ukrainian Lloyd C V to land near Lwow and an aircraft from the 5th Squadron shot down a Ukrainian aircraft at Chyrow. On the 24th, Albatros C XII 1832/17 of the 6th Squadron forced a Ukrainian Nieuport to land at Lwow. On 29 April, a Fokker E V of the 7th Squadron shot down a Ukrainian Nieuport 17. A Polish aircraft was allegedly downed by a Ukrainian Nieuport in February.

"I believe that six He 111s were ordered in September 1935 and delivered to China in 1936; not ten, as stated by D Y Louie in SAFO #74.

"I would like to draw the readers' attention to the British historical aviation magazine AIR Enthusiast which is now issued six times per year. In my opinion it is the only publication in its class (100 % historical, printed on good paper, almost free from advertisements). It has changed its appearance during the last year and now contains many articles on different subjects, often rather obscure ones. Now and then types, air forces, conflicts, etc. of small-air-force interest are treated." Lennart Andersson (SAFCH #68), Tiundagatan 52B, S752 30 Uppsala, Sweden.

"Steve Zaloga has advised me that he obtained the book 'Ilustrowana Encyklopedias Techniki Wojskowej - Lotnictwo Wojskowe Rosji', by Piotr Butowski, while visiting Poland last month. He has indicated that said title is superb. The 9/95 issue of Air International also published a favorable book

review on same. Therefore, may I suggest that SAFO arrange to have a few copies for SAFO readers. I, for one, will definitely want to order from you. Please help."

D.Y. Louie (SAFCH #544), 1 Irving Place #3-16D, New York, NY 10003-9706, USA.

[Editor's note: Would one of our Polish members like to send a couple of copies so I could make the available to SAFO readers?]

"I need to comment on the article about the Bulgarian ace in SAFO #73. The Bf 109 in the drawings are shown with a '1' while the written description lists it as '7'. One of the two is obviously incorrect. Perhaps Kim Margosein can explain the conflict. It would be nice to be able to model the correct a/c."

Tim White (SAFCH #356), 1148 Bishop Ave., Hayward, CA 94544, USA.

"In response to Lennart Andersson's article on the Yemeni AF (SAFO #71), enclosed are two photos of a SAML Aviatik trainer carrying with Yemeni markings. This aircraft was brought to Yemen by an Italian air mission in 1925. They brought at least one SAML Aviatik and one SVA biplane that were used to train local pilots from 1925-1927."

Roberto Gentili, Via Morandi 82, 50141 Florence, Italy.

[Editor's note: See photos on page 135.]

"News from downunder: The Army has finally received their four CH-47Ds and these are now in service with the 5th Aviation Regiment at Townsville, Queensland. The Army is having problems with their Blackhawk fleet: lack of spares, cracking of the mainframe caused by using the long range tanks for extended periods, and problems with the engines. It so bad, the fleet is virtually unflyable. Both the RAF and the Army have grounded their GAF Nomads and will be disposing of them. The RAAF have narrowed the contenders for the Lead-In Fighter Trainer competition to three: the BAe Hawk 100, McDonnell-Douglas T-54A Goshawk, and Aermacchi MB-339FD, of which the MB is the apparent front runner. Lockheed has provided it quotes for 12 C-120J-30s that will replace the RAAF's C-130Es as well as quotes for an option on 24 more; the contract will be issued next month (Dec. '95). The first of four ex-USN P-3Bs has arrived and been stripped of spares and the other 3 will arrive next year; these will be used as conversion trainers and support a/c when the P-3Cs are on deployment.

"If anyone wants details on the T-28s that came to Australia for South East Asia, I have a pretty complete list of serial numbers and US tie-ups and from which Air Force they came (mostly Laos)."

Mike Mirkovic (SAFCH #465), 413 Burt Way, East Perth, WA 6004, Australia.

"A L-410 Latvian military transport plane crashed on June 7 (1965) in front of hundreds of spectators during an air show dedicated to the 76th anniversary of military aviation in Latvia. Both pilots were killed. ... The Czech-built L-410 plane was donated to Latvia by Germany. Until the crash, the Latvian air force owned four airplanes: two AN-2's and two L-410's, and five MI-2 helicopters."

Extracted from "The Baltic Observer" June 15-21, 1995. Submitted by Ed Vaitones (SAFCH #1412), Box 850, Wilton, NH 03086, USA

"Surely the flag was not used after about 1921." (17) "Same colour as Salvador and Greece? And a fin roundel?" (18) China "I've never seen white star on blue disc anywhere else." (19) Guatemala "Dark blue roundel, light blue rudder?" (22) Uruguay "I've seen this 'thin' version before, but is it right?" (24) Argentine Army "With a blue disc on rudder?" (25) Argentine Navy "I have never seen an anchor on the roundel." (29) Japan "What's that rudder marking?" (30) Austria "Actually the para-military police." (39) Hungary "Not the usual!" (45) Brazil

3 8 14 24 17

18 19 22 25 29

30 39 45 48 59 60

## 125



# SQUADRONS OF THE ISRAELI AIR FORCE: 1948-1995

## Update II

### 113 To 253 Squadrons

John Hayles

#### Introduction

This article gives updated information for the remaining IDF/AF squadrons not covered in Update I. It should be noted that a number of reserve squadrons are listed for which no known (genuine) insignia has yet been published. 'Reserve' means the aircraft are in storage. First some additions to Update I:

69 Squadron: One RF-4E is serial 485, seen in May 1994. Although now fitted with in-flight refuelling probes, 69 Sqn F-4s are not being upgraded to K2000 standard. Presumably, the unit will re-equip with F-15I Strike Eagles in the future (an order was signed on 12 May 1994 for 21 aircraft to be delivered in 1997).

'B' Squadron: A batch of Vietnam era AH-1G Hueycobra helicopter gunships was delivered to Israel in the summer of 1975, and initial trials were conducted by the Flight Test Centre. The initial six AH-1Gs were returned to the USA for updating to AH-1S (Improved AH-1S) standard late 1977 - mid 1978. Modifications included a nose mounted sighting system and TOW missiles for the anti-armour role. These examples are often misreported as AH-1Qs, but this version lacks the uprated engine and sugar scoop IR exhaust seen on Israeli examples.

In April 1980 two combat helicopter squadrons were formed, each with fifteen MD500s (delivered from December 1979) and three of the updated AH-1S Hueycobras. Green Snake Sqn is identified as 161 Squadron, while the other unit was 160 Sqn.

In 1981 the first of two batches of AH-1F (modernized AH-1S) examples were delivered to the unit, (initially 9 aircraft followed by 8 more). This subtype features a cylindrical exhaust, 'hot brick' IR jammer, wire cutters and a low speed sensor probe. The arrival of the second batch in 1985 allowed the MD500s to be gathered into a single squadron designated 190 Sqn. Around 1987 the original six AH-1 helicopters were again upgraded to the AH-1E (Up-gun AH-1S) standard, with flat plate canopy, and long nose gun. A further ten AH-1F were ordered in 1993.

The aircraft used include:

Type	Qty	Service	Base	Badge	Example Serials
MD500/TOW	15	April 80 - 1985	Palmachim		
AH-1G*	3	April 80 - Present	"		313,324, 326,335
AH-1F	17	1981 - Present	"	84	359,412, 441,483

\* Converted to AH-1S then to AH-1E

'D' Squadron: This is in fact the Second Helicopter Squadron, see 'Q' Sqn for details. 'F' Sqn: Photographic evidence now confirms that 'A' Sqn and not 'F' Sqn operated the Islanders. It is now known that the Super King Airs are actually with 'A' Sqn. 'F' Sqn tail badge Figure 91. 'G' Sqn: It now appears that 120 Sqn is the correct designation for the Boeing 707 tanker unit (ref 51 has several errors). 100 Sqn: From January 1995, twenty-two US-built SOCATA TB20 Trinidads began replacing the Cessna U206s with 100 Sqn and several base flights (example

serials 327,331). 101 Sqn: Ref 59 gives full details of Avia S.199 use. The some F-16Ds now carry revised rudder stripes which are much thicker and almost horizontal, e.g. serial 031. 106 Sqn: The May 1992 batch of F-15s included F-15D serial 142. 107 Sqn: An earlier version of the unit badge, used on Ouragans and early F-4s is given in Figure 90. Add RF-4E serial 108 seen March 1995. 110 Sqn: Add serials F-16C 371, F-16D 034.

#### 113 Squadron ("Tsir'Ah/Wasp Squadron")

113 Squadron was established on 4 October 1955 under CO Beni Peled. The squadron strength was initially 24 Ouragans, declining to 20 examples by 1961. One aircraft from this unit was shot down by an Egyptian Vampire on 12 April 1956, whilst another was damaged in a mid-air collision and written off. The unit continued to receive deliveries of Ouragans in small batches until November 1964. The Armee de l'Air EC1/12 badge mentioned in Part III belongs to SPA89.

Although this unit has used the sharkmouth insignia, not all IDF/AF aircraft so painted belong to this unit. This especially applies to the F-4E, the subject of another official disinformation campaign.

To supplement the original batch of 18 Apache helicopters, 7 more examples were delivered in early Sept 1993, increasing the unit's total to 25. Further deliveries in December 1994 from the US Army are being used to form a second Apache squadron with 18 helicopters (127 Sqn at Palmachim).

The revised table for 113 Sqn reads:

Type	Qty	Service	Bases	Badge	Example Serials
MD450B Ouragan	26	6 Oct 55 - Jan 73	Hatzor	31	29,42,54,64
Nesher	15	Jan 73 - 1976	Hatzor	31,32	501,565
Kfir C-1	20	late 1975 - 1977	"	31,32	705,729
Kfir C-2 /TC-2	24/4	1977 - 1985	"	31,32	864 TC-2:302
AH-64A	25	12 Sep 90 - Present	Ramon	31	801,804,806,815 816,825,837, 845,914,924

#### 114 Squadron ("SPS")

See 'F' Squadron and SPS Squadron.

#### 115 Squadron ("Dragon Squadron")

This unit was first formed with the DH89A Dragon Rapide in 1948 for the communications/liaison/light bomber roles. Its fin badge may be derived from the SPA65 marking of EC2/2 which flew Mystere IVAs from Ramat David in the Sinai Campaign.

In 1969 the unit re-equipped with two dozen ex-USN A-4E Skyhawks, as the second unit to fly this particular variant. Constant updating and modification have blurred the distinctions between IDF/AF Skyhawk subtypes, but 115 Sqn appears to have also operated the A-4H version, and some two seater operational trainer variants. The unit re-equipped with the A-4N in late 1972, and was based at Nevatim from late 1983 with this type. It is now reportedly disbanded prior to re-equipment. Some A-4Ns carried an inverse version of Figure 35, with the red and white areas swapped over.

### Aircraft used by 115 Sqn include:

Type	Qty	Service	Base	Badge	Example Serials
DH89A	13	1948 - 1956	Ekron		
Mosquito PR.16	3	mid 1956 - 1960	Ekron (Tel Nof)		
Meteor T.7	3	mid 1956 - 1960	Ekron		
A-4E	24?	1969-end 1972	Tel Nof	33,35	117,119,152,159, 165,168,172
A-4H	5+	1969 - end 1972	Tel Nof	33,35	61,363,369,379, 398
TA-4F/TA-4J	5	1970 - 1983 1983 - 1993	Tel Nof Nevatim	33,35	701
A-4N	30	end 1972 - 1983 1983 -1993	"	34,35	301,318,322,344, 354,371,401,403, 405,415

### 116 Squadron (Wirecutters Squadron\*)

\* All IDF/AF units have official nicknames for security purposes, but this is thought to be an unofficial nickname, the official one is unknown. 116 Squadron was formed in February 1956, with ex-101 Sqn P-51Ds at Ekron (Tel Nof), as a reservist unit manned by flying instructors from the Flight School at the same base. It was placed in reserve in the last quarter of 1958.

116 Sqn did not convert to the Mystere IVA until 1961, when it received 16 aircraft from 101 Sqn. Thus becoming the third and last unit to operate the type. In 1968 further aircraft were received from 109 Sqn. Three Mysteres were lost over Suez in January-February 1970. Later in 1970, the squadron began to receive ex-USN A-4E Skyhawks, allowing it to finally retire its Mystere IVAs in February 1971. It was the sixth unit to operate the Skyhawk. By 1975 the unit had converted to the A-4N variant, and was based at Nevatim from 1983.

The revised table reads:-

Type	Qty	Service	Base	Badge	Example Serials
P-51D	20	Feb 56 - late 58	Ekron	36	038,39,54
Mystere IVA	30	1961 - Feb 1971	"	37	09
A-4E	24?	1970 - 1975	Tel Nof (Ekron)	35	208,209,213,215, 216,218,220,225
A-4H	some	"	"	35	272,322,323,324, 346,392
TA-4J	2+	"	"	35	716,721
A-4N	24	1975 - 1983 1983 - Present?	Tel Nof Nevatim	38	330,377

### 117 Squadron ("Tayaset Ha'Silon Ha'Rishona"/"First Jet Squadron")

117 Squadron was first established on 7 June 1953 at Ramat David AB (the home of No.1 Wing IDF/AF), and "officially inaugurated" on 23 June. One or two pairs of Meteors were often detached to Hatzor for QRA duties during 1954 and 1955.

From the summer of 1956, 117 Sqn became an advanced training unit for the Flight School, being staffed largely by QFIs. Ground attack became the units secondary mission. Students came from the basic flying stage at Flight School and completed some 50-60 hours of instruction, including 10 hours at night. The Meteors received a coat of camouflage paint, to reflect the change in their role. The unit moved to Tel Nof AB in October 1956 and stayed for the duration of the Sinai Campaign.

It had been planned to re-equip the squadron with 24 Canadair Sabres in mid 1956, but this was cancelled.

A few corrections to the Meteor entries in the table: 2163,2176 and 212 were dummy delivery registrations not serial numbers; five not four "T.8" trainers were delivered.

Additional Mirage serials are IICJ 26,29,180,776 and IIBJ 789. The two Mirage IICJ(R)s were serialised 34 and 60. The Mirage tail badge is shown in Figure 92. The lightning flash on F-16 fins (Figure 41) is actually silver in colour and the quantities quoted for F-16A/B and C/D should be 22/3 and 23/1 aircraft

respectively. Additional F-16 serials are A model: 113 and C model: 304 and 360.

### SPS Squadron

This unit has been identified as 114 Squadron (by Scramble), previously flying Ansons and Consuls - see also 'F' Sqn. It was reformed as a helicopter squadron using the best pilots from RSS. The total for Super Frelons delivered is 14 or 15. Frelon serial 020 carried badge Figure 45. 114 Sqn received most (9?) of the USMC CH-53As delivered in October 1973. The Frelons were retired in 1991, replaced by additional CH-53s. Current base is Tel Nof.

### 118 Squadron

This unit actually received the first of its 12 S-65C-3s on 17 October 1969, with further examples of ex-USMC CH-53As in October 1973 (alongside SPS Squadron). Initial serials were in the range 31-54, before being renumbered to three digit serials. The two Austrian examples (658 and 666) arrived on 15 May 1981. Ten more ex-USMC CH-53As were delivered in early 1991 (including serials 871, 875). These examples featured USMC camouflage and no in-flight refuelling probe, but will eventually be updated to the standard of the rest of the fleet. A further six examples were delivered in August 1992. Current base is also Tel Nof. Additional S-65 serials: 251, 544, 550, 702.

### 'H' Squadron

This unit is now thought to be a disinformation exercise, and so doesn't exist. Two S-65s were photographed in 1991 with fictional unit badges (Fig. 48) temporarily painted on.

### 'T' Squadron ("Tayaset Hanummer Hameofef/The Flying Tiger Squadron")

This long established unit is well known within Israel as the IDF/AF's premier attack squadron - although precise historical details are very hard to obtain. The Flying Tigers have been identified as 102 Squadron.

The squadrons initial equipment is not at present known, although it may have been an early light transport unit. It is known, however, that the Flying Tiger Squadron was the fourth unit to convert to the Skyhawk when it equipped with the A-4H in 1968. The unit is also thought to have received some A-4E variants. By 1975 the Flying Tiger Squadron had converted to the A-4N variant, a type which it still operates. The A-4Ns came from 110 and Yellow Bird squadrons. The unit has been based at Hatzor since 1982.

The 'winged tiger' badge carried by this unit should not be confused with insignia of the Advanced Flying Training Squadron, which uses a similar winged leaping-animal badge. The correct badge for later marks of A-4 is shown in Figure 94. Squadron aircraft carry a blue rudder with white horizontal stripes, or a solid dark blue rudder.

Aircraft used by 'T' Sqn include:

Type	Qty	Service	Base	Badge	Example Serials
A-4H	24	1968 - 1975	Hatzor	49	232,235,272,715,721, 723,724,725,790
TA-4J	1	1968 - 1975	Hatzor	49	702
A-4E	Some	1973 - 1975	Hatzor	94	831
TA-4F	few	1973 - 1975	"	94	605,606,608
A-4N	30	1975 - Present	Eitam,Ramon ,Hatzorim	94	311,313,389,411,413, 419

### 'J' Squadron ("Falcon Squadron")

This unit has been identified as 140 Sqn (some refs give an incorrect identity). It formed in 1976 with Mirage/Nesher aircraft from 101 Sqn, and was later supplemented by 117 Sqn aircraft. Originally based at Eitam, the unit had moved to Matred Ramon by April 1982, when Eitam was handed back to Egypt under the Camp David Agreement. It is reported that the unit then converted to Kfir C-2s, but this is unconfirmed.

The squadron converted to the F-16A/B circa 1987, using aircraft from 110 and 117 squadrons. The F-16 version of Fig 42 is given in Fig 93.

Note: Aircraft with orange/black triangles carried a modified rudder marking with a red stripe replacing the upper white stripe.

Aircraft used by 'J' Sqn include:

Type	Qty	Service	Base	Badge	Example Serials
Mirage IIICJ	19	1976 - 1981 1981 - 1982	Eitam Ramon	42, 43	103, 111, 133, 144, 150, 153, 159, 163, 171, 177
Mirage IIIBJ	3	1976 - 1981 1981 - 1982	Eitam Ramon	42, 43	286, 287
Nesher	?	1976 - 1981	Eitam	42, 43	524, 525, 527, 528, 566, 599
Kfir C-2	?	1982 - 1987	Ramon		
F-16A/B	15/2?	1987 - Present	Ramon	93	112, 260, 261, 273, 293

### 119 Squadron ("Tayaset Ha'Atalef"/"Bat Squadron")

Formed in 1953 at Hatzor and disbanded in October 1955. The TR.33 version of the Mosquito was not used by this unit. A Mosquito PR flight was formed in July 1954 at Hatzor, but in the Spring of 1956 it transferred to Tel Nof and was renamed 115 Sqn.

The shooting down of the Egyptian Il-14 on the night of 28 October 1956 was 119 squadrons only Meteor NF.13 kill. The Egyptian Army Supreme Commander was in a second following Il-14 and thus not killed. Four scrambles were made against intruding Il-28s on the night of 30/31 October 1956, but no intercepts were achieved. Delivery registrations were 4X-FNA to FNF, with serials 38, 51, 52, 55, 56 and 57 (later 157).

Further Mirage IIICJ serial examples are 745, 755, 758, 768, 778, 779, 780.

The squadron was the third F-4E unit, reformed in late 1970 and eventually receiving over thirty Phantoms. Further serial examples include 147, 167, 171, 250, 330. In early 1971 the unit received two RF-4Es, but these were later passed to 'V' Sqn.

The Prototype Kurnass 2000, serial 001, first flew 15 July 1987 in 119 Sqn colours, but production Kurnass 2000s were not delivered to the squadron until early 1989. The fiftieth and last Kurnass 2000 was handed back to the IDF/AF on 21 April 1994. Example serials for 119 Sqn are 703, 708, 719.

### 120 Squadron

This unit operates the Boeing 707 transport/tanker aircraft. See 'G' Squadron of Part III.

### 121 Squadron ("Ibex Squadron")

In 1962 a new emergency squadron was formed with armed Magister trainers staffed by QFIs (from the Flight School) and reserve pilots at Hatzetim. It disbanded in 1972 and re-equipped with the A-4 two years later. See 'U' Squadron of Part IV.

### 122 Squadron ("Orange Bird Squadron") Role: Medium Transport

A new Dakota squadron (122 Sqn) was formed in 1962, with aircraft from 103 Squadron. Although unit strength had declined to only ten aircraft by 6 October 1973, the receipt of further aircraft has boosted numbers to around twenty at present. C-47s played a useful part in the 1982 invasion of Lebanon, flying supplies from a forward airstrip at Nabatiya inside Lebanese territory. A better version of the unit badge Figure 9 is shown in Figure 95. Three Aravas were commandeered in October 1973 for front-line supply and casevac missions, all but one being returned to their original owners after the war. Three new Aravas were introduced by 1984, but squadron personnel preferred the Dakota! At least two RC-47s have extra aerals for the ELINT role. Aircraft are now being painted overall grey. In 1995 an Arava was again seen in 122 Sqn insignia.

Aircraft used by 122 Squadron include:

Type	Qty	Service	Base	Badge	Example Serials
C-47/DC-3	20	1962 - Present	Ben Gurion (Lod)	95	4X-FMF/040, FMJ/ 042, FMP/044, FMU/ 042, FNE/032, FNL/04, FNQ/022, FNZ, 034
IAI Arava 101/201	1/2	Oct 1973 - 1974	Ben Gurion (Lod)		4X-IAB
IAI Arava 201	3	1982 - 1984?	"		
IAI Arava 202	1+	1995 - Present	"	95%	4X-JUF/211

% Orange bird on a white background, enclosed in a blue ring.

### 123 Squadron

This is the identity for 'P' Sqn of Part V. It now operates the Bell 212 from Hatzetim.

### 124 Squadron ("Flying Swords Squadron") Role: Utility Transport

February 1975 saw the arrival of the first Bell 212, destined to replace the Bell 205 in IDF/AF service. It seems that a new squadron was formed to operate them, rather than directly replace the Bell 205s of RSS Sqn. RSS then appears to have been disbanded, and its unit badge transferred to 124 Sqn. Several of the 212s were dedicated to advanced helicopter pilot training, following on from the Bell 206 - these 212s being recently transferred permanently to the Flight School strength.

A number of ex-US Army UH-60s have been received from the USA, with surplus Bell 212s going to 123 Sqn. Figure 75 is a censored form of Figure 74.

Aircraft used by 124 Sqn include:-

Type	Qty	Service	Base	Badge	Example Serials
Bell 212	58	Feb 75 - Present	Palmachim	74	010, 012, 028, 029, 032, 051, 057
UH-60A	10	30 Aug 94 - Present	"	74	605, 607

### 125 Squadron. Role: Observation/VIP/Light Transport

This unit was formed in 1972 from a core of SHS Sqn personnel, when further batches of Bell 206 JetRanger helicopters were received.

Aircraft used by 125 Sqn include:

Type	Qty	Service	Base	Badge	Serial Examples
SA318C Alouette II	2	1972 - 1982+	Sde Dov	77	012
Bell OH-58A/AB206A	14	1972 - Present	"	77	123, 125, 126, 138
Bell 206B/ OH-58B	6?	Late 70's - Present	"	77	143
Bell 206L-3/ OH-58D	4	1981 - Present	"	77	201, 203

### 126 Squadron. Role: ELINT/Medium Transport

An Arava transport squadron was formed in about 1984 with new aircraft, but during the mid 1980s all examples were converted to the EW role in the USA, being returned 1987-90. The aircraft are now painted grey and serialled in the range 201-225.

Aircraft used by 126 Squadron include:

Type	Qty	Service	Base	Badge	Example Serials
IAI 201/202 Arava	10	1984 - Present	Tel Nof & Lod		4X-PDA, FDB, FDD/205, JUA/201, JUF/205, JUK/212

### 127 Squadron

According to Scramble and Ref[52], the Vautour ECM aircraft of 'R' Sqn in the early 1970s belonged to this unit, including IIB serial 33. The unit is now the second AH-64A Apache unit at Palmachim.

### 128 Squadron

Operates the RC-12/RU-21 from Sde Dov, see 'R' Sqn of Part V.

### 129 Squadron

This is supposedly the identity for a second Cessna 206 unit formed at Sde Dov in 1968. This is very unlikely. It may be a shadow identity for civil light aircraft in wartime.

### 130 Squadron

This is the identity of 'F' Sqn; the Queen Air unit at Sde Dov.

### 131 Squadron

131 Sqn was initially formed in Oct 1973 with a dozen C-130Es. Contrary to the text of Part IV, the first C-130 unit was actually 120 Sqn (with only 2 C-130H aircraft). In 1976 131 Sqn amalgamated with 103 Sqn and took over the two C-130Hs from 120 Sqn as well, to become the IDF/AFs sole C-130 unit. Some squadron aircraft carry the badges of both 103 and 131 sqns, one on each side of the fin.

### 132 Squadron

This is reportedly a Kfir C2 reserve unit at Nevatim.

### 133 Squadron ("Eagle Squadron")

This unit received many of the 25 USAF surplus F-15A/B aircraft delivered from October 1991, including F-15B serial 404. The eagle's head insignia Figure 57 is not an Israeli marking, and can be seen on JASDF F-15s.

### 134 Squadron

This unit operates the EW/Recce versions of the Boeing 707 at Lod, see 'G' Sqn of Part III.

### 135 Squadron

This is the identity for 'A' Sqn of Part I.

### 136 Squadron

Reportedly a Hawk and Patriot SAM unit.

### 137 Squadron

This is reportedly an A-4E reserve unit at Uvda. Originally formed with 24 A-4E at Etzion in 1974, it moved to Uvda in 1982.

### 138 & 139 Squadrons

Both are reportedly Hawk and Patriot SAM units.

### 'K' Squadron ("Parrot Squadron"). Role: Fighter-Bomber

The Parrot Squadron was a new unit formed in late 1979 specifically to operate the Kfir C-2, becoming the fifth and last unit to convert to this type. The identity for this unit is 144 Squadron. Some of its aircraft were later converted to C-7 standard. Four TC-2 trainers were also used. Since 1987, the Kfir has been gradually withdrawn from IDF/AF service, leaving the Parrot Squadron as one of the last operators of the Kfir. It currently operates Kfir C-7s from Uvda.

Aircraft used by the Parrot Squadron include:

Type	Qty	Service	Base	Badge	Serial Examples
Kfir C-2/TC-2	24/2	1979 - 1981 1981 - 1986	Etzion Uvda	60, 61	301, 822, 826, 841, 853, 858, 903
Kfir C-7	12?	1983 - Present	Uvda	60, 61	812, 833, 961

### 'L' Squadron ("Red Bird Squadron")

This unit, with its distinctive red bird on yellow disc insignia, is thought to have first formed in late 1972 on the IAI Nesher. It has been identified as 111 Squadron (by Scramble). This squadron was one of only two squadrons to operate the Nesher as its sole equipment (rather than alongside the Mirage III) - the other being 113 Sqn.

Some Nesher were based at Refidim (Bir Gafgafa) in Sinai in October 1973, and consequently the unit saw much action during the Yom Kippur War.

In 1978 the unit converted to the Kfir C-2. Prior to the closure of Etzion AB in April 1982, the unit moved to the new base at Uvda. On 31 July 1983 the first production example of the Kfir C-7 was delivered, this variant eventually replacing the C-2 models. Several reports have stated that this unit disbanded during the 1980s, but photographic evidence shows that it survived until at least 1993 as the last unit to fly the Kfir. By March 1995 it had moved to Hatzor and re-equipped with USAF surplus F-16A/B Block 10 aircraft. These aircraft carry a large red bird marking on the fin.

The revised table reads:

Type	Qty	Service	Base	Badge	Example Serials
Nesher	20	late 72 - 1978	Etzion	62	599
Kfir C-2/TC-2	24/4	late 1978 - 1981 1981 - 1985	Etzion Uvda	62, 63	826, 871, 824 TC-2: 309
Kfir C-7	24	31 July 83 - 1993+	Uvda	62, 63	516, 537, 549, 551, 555
F-16A/B	25	Dec 1994 - Present	Hatzor		752, 755

### 'M' Squadron ("Yellow Snake Squadron")

A second attack helicopter squadron was formed in April 1980 alongside 'B' Sqn (161 Sqn). The identity of this unit is 160 Squadron.

The initial strength comprised fifteen MD500s and three AH-1S. The unit included some MD500D helicopters without TOW missile launchers and sighting equipment, possibly for the pilot training role. It is not yet known whether these were converted TOW examples or a separate delivery.

The existing strength was supplemented by a batch of nine AH-1F Hueycobras delivered from 1981. A second batch of eight AH-1Fs was received in 1985, followed by four more in 1987 when the original AH-1S examples were consolidated into 161 Sqn.

It is known that the AH-1Fs have received a number of avionics upgrades since delivery, particularly in the field of night vision systems.

Aircraft used by 'M' Squadron include:-

Type	Qty	Service	Base	Badge	Example Serials
MD500/TOW	10	April 80 - 1985	Palmachim	65	216
H500MD	5?	? - 1985	"	65	935
AH-1G*	3	April 80 - 1987			
AH-1F	21	1981 - Present	Palmachim	65	235, 353, 356, 501, 514

\* Converted to AH-1S then to AH-1E

#### 'N' Squadron ("Yellow Bird Squadron")

Unfortunately, most of my original text is wrong. This squadron was actually the first A-4E squadron to form (and the third to use the Skyhawk). Its main base was Ekron (Tel Nof), not Etzion. It was also the first unit to re-equip with A-4Ns, which were later passed on to 115 and 102 squadrons when re-equipment with F-16s commenced. It was the third unit to fly the F-16. Yellow Bird Sqn is thought to be highest numbered IDF/AF flying unit as 253 Sqn. The unit has been based at Ramon since 1982. The F-16 fin marking is shown in Figure 96.

The revised table reads:

Type	Qty	Service	Base	Badge	Example Serials
A-4E	24	1969 - 1972	Tel Nof	66%	885
TA-4F	?	1969? - 1972	Tel Nof	66%	
A-4N	25	end 1972 - 1982	"	66%	413
F-16A/B	15/2?	1982 - Present	Ramon	96	109

% Also green rudder with yellow horizontal stripes

#### Flight School

Some time before October 1955 the Flight School moved from Kfar Sirkin to Tel Nof, the former being closed down. In 1966 the School moved to the new airbase at Hatzetim. Officially, some 80-90 Harvards were used 1948-63, one Chipmunk 1949-54, one Temco 1949-54 and at least sixty Kaydets 1948-61. Additional serials are: Kaydet 43, 2702, 2722 and Fokker Instructor 14, Super Cub 013, A-4N 396 (red rudder), TA-4J 712. Additions to table: Cessna 150 6 a/c serials 022, 031, 047, 057, 060, 069; Cessna 172Q (T-41) served 1967-1980; the two Cessna 180s are now sold including serial 28; total TA-4H/J was 10/11. Six A-4Es carried Figures 69 and 70 with serials 881, 883, 887, 892, 894, 895 but were retired 19 March 1993. A-4H serial 270 carried Figure 67. The A-4s are to be replaced by ex-USAF F-16Bs.

#### 140 Squadron

See Flight School (Part V). However this squadron is now the F-16A/B OCU at Ramon, see 'J' Squadron of Part IV.

#### 141 Squadron

Reportedly an A-4N reserve squadron at Nevatim since 1976. Probably originally equipped with the A-4E/H variants. Due to move to Hatzetim in 1995.

#### 142 Squadron

Reportedly a F-4E-2000 reserve unit at Hatzetim since 1976. Likely to be disinformation.

#### 143 Squadron

Reportedly a Kfir C2 reserve unit at Uvda since 1982.

#### 144 Squadron

See 'K' Squadron of Part IV.

#### 145 Squadron

Reportedly an A-4E reserve unit at Uvda. Originally formed with 24 A-4E at Etzion in 1975, and moved to Uvda in 1982.

#### 146 Squadron

Reportedly a Samson & Delilah RPV unit at Ramon.

#### 147 Squadron

See Flight School (Part V). However, this unit has operated the F-16A/B from Ramon since 1987.

#### 148 Squadron ("Battleaxe Squadron")

This is alleged to be the third Eagle squadron at Tel Nof, operating the 25 USAF surplus F-15A/Bs delivered from October 1991. Although there is no evidence of its existence.

#### 149 Squadron

This unit was reportedly formed in 1982 at Ramon on the Kfir. See fin badge Figure 97. Example serials: 804,843,888 (C2) and 895 (C7). It became a reserve unit in 1987, with its aircraft in storage at Hatzor. Possibly a disinformation exercise using aircraft from 111 Sqn.

#### 153 Squadron

Reportedly operates the Standard Anti-Radar Missile at Ramat David.

#### 155 Squadron

Reportedly a Samson & Delilah RPV unit at Ramon.

#### 160 Squadron

An AH-1 Squadron at Palmachim, see 'B' Sqn of Part I.

#### 161 Squadron

The second AH-1 squadron at Palmachim, see 'M' Sqn of Part IV.

#### 190 Squadron

This is the MD500 unit, see 'D' Squadron of Part II.

#### 192 Squadron

Operates the E-2C. See 'S' Sqn of Part V.

#### 193 Squadron

Operates the Dolphin helicopters delivered in July 1988. See 'E' Sqn of Part II. In early 1994, an order was placed for up to 20 AS.565 Panthers to serve alongside the two Dolphins. These helicopters will be operated by the Air Force, on behalf of the Navy, in support of Israel's expanding fleet of helicopter capable missile boats.

#### 195 Squadron

This unit operates the SeaScans of 'G' Sqn (Part III), with new unit badge Figure 98.

#### 199 Squadron

No new information.

#### 200 Squadron

Reportedly operates the Firebee, Scout and Searcher RPVs



from Palmachim.

#### **201 Squadron ("Ahat/One Squadron")**

Currently at Tel Nof, alongside 119 Sqn. Additional serials F-4E 149, Kurnass 2000 656.

#### **202 Squadron**

Formed in 1973 at Etzion with A-4E. Moved to Uvda in 1982. Now reportedly an A-4E reserve squadron at Uvda.

#### **248 Squadron**

Reportedly operates the Standard ARM at Hatzor.

#### **251 Squadron**

Reportedly a Kfir C-2 reserve squadron at Uvda.

#### **253 Squadron ("Yellow Bird Squadron")**

This is the identity for 'N' Sqn of Part IV.

#### **'O' Squadron ("Rotor and Sword Squadron")**

Now identified as 112 Sqn, based at Tel Nof and Sde Dov. The official nickname of RSS was 'Inverted Sword Squadron', while 'Rotor And Sword' was its popular name. Following the formation of 124 Sqn in 1975, it appears that RSS was disbanded and its unit badge transferred to 124 Sqn.

#### **'P' Squadron**

Identified as 123 Sqn, this unit currently operates the Bell 212 from Hatzerim. As with 124 Squadron, this is probably the location of the headquarters flight while detachments operate from several bases. Formed prior to 1972 on the Bell 205, it received the Bell 212 in 1989. A total of 34 Bell 205A and 30 UH-1D were delivered to the IDF/AF. The unit badge is shown in Figure 99.

#### **'Q' Squadron ("Second Helicopter Squadron")**

In 1972 a number of Alouettes and Jet Rangers split off from SHS into a new unit designated 125 Sqn (which see). Figure 77 thus applies to 125 Sqn. Both units were based at Sde Dov. It is believed that in 1985 the Jet Rangers of SHS were replaced by MD500/TOW helicopters displaced from 160 and 161 sqns. Leaving 125 Sqn as the only Bell 206 unit. Thus SHS is actually 190 Sqn, with its recent history recorded as 'D' Sqn.

Replace Bell 206B/206L table entry with:

Type	Qty	Service	Base	Badge	Serial Examples
MD500/TOW	26	1985 - Present	Ramat David	29	299

#### **'R' Squadron**

Three RU-21A, four RU-21H, and six RC-12D 'Improved Guardrail V' aircraft are based at Sde Dov, with 128 Sqn. The latter replacing the OV-1D Mohawk in 1986. The last RC-12D arrived in May 1991. It is doubtful that the ECM Vautours served with this unit.

#### **'S' Squadron**

The E-2Cs are based at Hatzerim with 192 Sqn.

#### **'T' Squadron ("Flight Test Centre")**

Based at Hatzor, this unit also uses F-16C serial 301 for weapons trials.

#### **'U' Squadron ("Ibex Squadron")**

Now identified as 121 Sqn, this unit was reformed on the A-4H in 1974 at Hatzerim, before moving on to the A-4N in 1978. Additional serials include A-4H 147,221, TA-4F 611, A-4N 314, 392 and TA-4H/Js 723, 730. It disbanded in 1982. Aircraft carried plain yellow painted rudders.

#### **'V' Squadron. Role: Reconnaissance**

This unit was for a while the sole operator of the eighteen RF-4Es in IDF/AF service. Short range reconnaissance operations were centralised in late 1973, following very poor results achieved in the Yom Kippur War when three Phantom squadrons had two RF-4Es each. It is thought that the aircraft were returned to the various F-4E/Kurnass 2000 units around 1981. These RF-4s are highly modified aircraft with some avionics systems from the F-15 Eagle and SLAR sensor systems. One was reportedly shot down on 24 June 1982 over the Lebanon valley.

#### **'W' Squadron. Role: Reconnaissance**

It is thought that a separate specialist unit is the operator of the three F-4E(S) Phantom conversions received in 1978, equipped with the extremely advanced HIAC-1 ultra-high resolution camera system in a modified enlarged nose for long range reconnaissance. Nothing else is known about IDF/AF use of this type.

For completeness, here's a list of Wing/Base number codes:

1 Ramat David  
4 Hatzor  
6 Hatzerim  
8 Tel Nof  
10 Uvda  
12 (Kfar Sirkin)  
15 Sde Dov  
21 Haifa Airport  
25 Ramon  
27 Lod  
28 Nevatim  
30 Palmachim

Once again, any further comments on the above are still welcomed.

#### **Additional References:**

53. World Air Power Journal No.16 Spring 1994  
54. Air Fan Sept 1989  
55. Air International Sept 1993  
56. World Air Power Journal No.19 Winter 1994  
57. Le Fana de L'Aviation No.298 August 1994  
58. The Shield Of David (Concord Publications)  
59. Air Enthusiast No.57 & No.59

#### **Acknowledgments**

Vajda Ferenc-Antal, Martin Bach, Leif Hellstrom, Jon Lake, David Lednicer, Russell Mueller, Bill Norton, Pawel Przymusiala, Holger Sens, Dmitri Shevchuk.

John Hayles (SAFCH #463), 14 Meadow Garth, Beverley High Road, Hull, North Humberside, HU6 7YJ, England.

(Colours as  
for Part V)

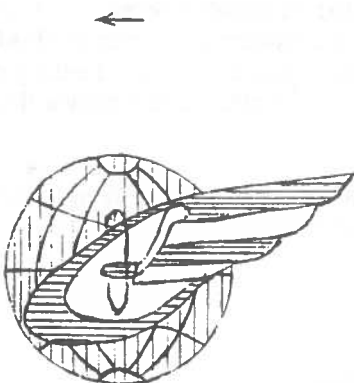
# **SQUADRONS OF THE ISRAELI AIR FORCE 1948 - 1995**

## **UPDATE II**

**John Hayles**



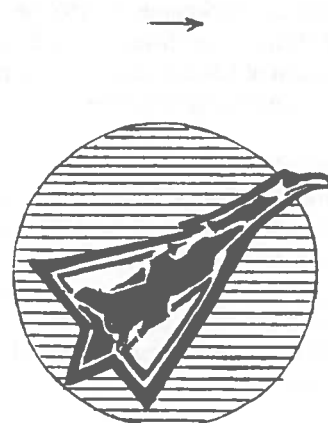
**Figure 90  
107 Sqn  
(tail fin)**



**Figure 91  
'F' Sqn  
(tail fin)**



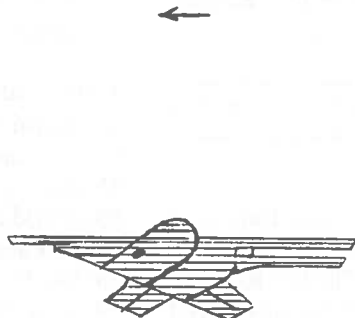
**Figure 92  
117 Sqn  
(tail fin)**



**Figure 93  
'J' Sqn  
(tail fin)**



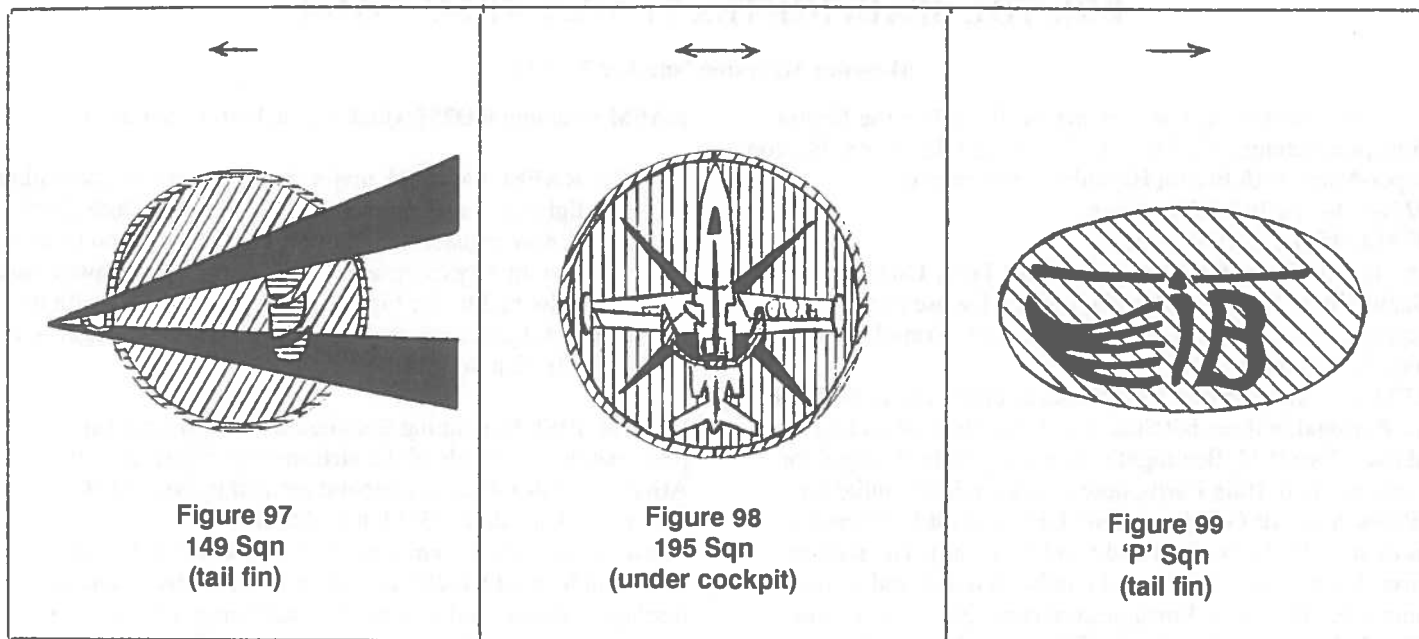
**Figure 94  
'I' Sqn  
(tail fin)**



**Figure 95  
122 Sqn  
(tail fin)**



**Figure 96  
'N' Sqn  
(tail fin)**



**Figure 97**  
**149 Sqn**  
**(tail fin)**

**Figure 98**  
**195 Sqn**  
**(under cockpit)**

**Figure 99**  
**'P' Sqn**  
**(tail fin)**

# **-wants&disposals-wants&disposals-wants&disposals-wants&disposals-wants&disposals-wants&disposals-wants&disposals-**

"(1) I loaned the page of color photos of Somali a/c from the Italian magazine, JP-4, February 1992, but I can't remember to whom. Please return it so I can answer a question from a member about the color schemes of Somali MiG-17s. (2) In latest issue of PKC (Plastic Kit Constructor) #44 there is a review of the Huma kit of the DFS 346 (see review in this kit in this issue of SAFO) in which the reviewer describes colorful markings for this a/c in Soviet service. Does anyone have any photos of the Soviet DFS 346 carrying anything more than red stars?"  
The Editor.

"Research assistance available. If you need documentation on any type of aircraft, civil or military, from any time period, we will research it for you. All data is placed in a research package which contains 3 views, specifications, photos, and history of your aircraft. Each research package is only \$5.95 plus \$3.00 shipping and handling. Send a LSASE for more details on our research services. If you have hit a dead end on research, write me. All letter and requests will be answered."  
John Raymond, Aircraft Research Ltd., 27-5 Queens Way, Camillus, NY 13031, USA.

"In view of the excellent and unselfish spirit of sharing that I find in the pages of SAFO (as exemplified by John Raymonds presentation on the ANF/Mareaux 170 in SAFO #74), I realize that I am remiss in not mentioning my own full-time Reference Team at the National Air and Space Museum, Archive Division, NASM MRC 322, Washington, DC 20560 (Telephone 202-357-3133 and FAX 202-786-2835, E-mail address available on request.) We answer literally thousands of requests for assistance each year from all over the world. While we are a technology museum, our holdings on military aircraft are considerable. Some of the collections we have are enthralling and, while on-site research is best (we have a presence both in the main Museum building on the

Mall and in Suitland, Maryland), we also will do limited research via mail. We can support requests for a summary of our holdings on up to five aircraft types per month with a limit of one letter per month. We will make up to 20 photocopies (i.e. 'xerographic' copies) at no charge but, if the total page count of a subject goes beyond 20 pages, we have to charge 25 cents per page. Out photo holding are in excess of 1.7 million and, while comparatively few relate to small air forces, there are a few gems here and there. We are co-located with our NASM SI Branch Library, which is a wonderful resource. Amongst their holdings are many between-the-wars European periodicals that are virtually impossible to locate elsewhere, and which often hold unique treasures, especially drawings and three-views.

"We encourage contact with one and all, and hope that SAFO members who use our facility will identify themselves as such to myself or my Team members. We make a concerted effort to respond to all written inquiries within two weeks of the time we receive them."

Dan Hagedorn (SAFCH #394), PO Box 682, Centreville, VA 20220-0682, USA.

"I got a lot of feedback on my articles your ran in SAFO #73, so perhaps the members can help me on these:

"(1) Supposedly, Romania had some Bf-109s in service into the mid-fifties. In theory, they would have been marked with the Warsaw-Pact star. Does anyone have photos confirming this? If so, I would like to have a photocopy. No anecdotal evidence please.

"(2) Attention Zeppelin Scholars! I have received some sketchy information about the LZ-101 which was turned over to the Bulgarian military by Germany, and was lost some time in 1917 or 1918. I gather it was used mostly for air raids on Romania. Can anyone fill out the history a bit more?"

Kim Margosein (SAFCH #104), 2813 192 St.,

Lansing, IL 60438, USA.

"I'm in the process of designing a detailed military simulation game. This will be a multi-level game that will require extensive amounts of information about air, sea, and land forces of nations worldwide during the period 1935-45. Any assistance you can give would be greatly appreciated. I also collect 1/72 aircraft, 1/700 warships, 1/72 & 1/76 armor, and 1/144 airliners. Good sources for these are also welcome."

Scott Manke (SAFCH #1425), PO Box 6683, Lincoln, NE 68506, USA.

"I am seeking help from SAFO readers to complete two projects. Both projects are to be used in production of 1/72-scale kits and both will be complimented by articles published in SAFO.

"The first concerns any military use, including American, of the Ryan PT-23 and/or M-62B. I have a single drawing of a Warner-powered M-62B in Chilean markings, no photos. Honduras and Uruguay both had PT-23s and I have, through Dan Hagedorn, notes and a couple of very fuzzy photos. If anyone can provide further information on these, or any other countries operating these aircraft, please get in touch.

"The second, longer range, project is the military use of the Republic RC-3 Sea Bee. Dan supplied notes on Uruguayan and Dominican Republic military use. I have heard of French and Vietnamese military air arms used the Sea bee, but have not been able to uncover any data. At this point, anything will help.

"In two years I have not been able to uncover any military use of the Ryan Brougham, our next complete kit. If anyone has anything that would indicate that any air force, naval air force, or any military anywhere used this aircraft, please let me know.

Tom Young (SAFCH #56), c/o Model-Aire International, PO Box 159, Olema, CA 94950, USA.

# BRISTOL BEAUFIGHTER TF Mk.X RD253/7931M

Museum Accession Number 74/A/13

Oct 1944: Built as part of contract No.B65570 at the Bristol Aeroplane company's 'Shadow' factory at Old Mixon, Weston-super-Mare, with Bristol Hercules XVII engines.

02 Nov 44: To 19 MU St Athan.

07 Mar 45: To RAF Pershore.

18 Mar 45: Ferried to Portugal by No.1 Ferry Unit. One of 16 Beaufighters ferried to Portela, Lisbon, for use by the Portuguese Naval Air Arm (Forças Aereas du Armada) that month, beginning

13 March, with the first batch of six aircraft. The aircraft left for Portugal in three batches - two formations of six and one of four. Two RAF Beaufighter crews stayed in Portugal for three weeks to train Portuguese crews on the Beaufighter (Pilots: Sqd Ldr G H Denholme DFC and Flt Lt Gregory, navigators Flt Lt Dodson and Fg Off Sancha). The sixteen aircraft came from RD- serial number batches and were re-numbered BF1-16 in Portuguese service, No.253 becoming BF-13. As delivered to Portugal the aircraft carried coastal command colours and Portuguese markings. A further Beaufighter was delivered in 1946 after overhaul by Bristol.

- \* The Portuguese used the Beaufighters for maritime patrol duties, equipping Esquadrilla B of the Forças Aereas du Armada (later renamed Aeronautica Naval) based at Portela de Sacavem, replacing Blenheim IVFs with some of the Beaufighters later being operated from a second naval air base at Averio, the Centro de Aviacao Naval de San Jacinto. The Beaufighters were withdrawn from service in 1950 with the disbandment of Esquadrilla B.

c1950: Parked in open at Lisbon Technical Institute (Instituto Superior Tecnico) for use as instructional airframe, together with a second Beaufighter, BF-10, now preserved in South Africa

1965: Presented to RAF for preservation by the College arriving at 71 MU Bicester that July.

1966: Using components from RD867, a target-tug Beaufighter recovered from RAF Takali, Malta in 1963 and RD253, 71 MU rebuilt one Beaufighter as RD867; this aircraft was later swapped with Canada for the Bolingbroke now in the BoB Hall (masquerading as a Blenheim), the

RAFM retaining RD253 which was in better condition.

- \* The RAFM has held major components of two other Beaufighters - ex-Halton engine running rig X7688/3858M, a Mk.1 now registered as G-DINT for restoration to flying condition by SkySport, and the ex-Cranfield cutaway nose section loaned to the Fighter Collection to assist with their own Beaufighter restoration 1992/95. This is thought to be an Australian built Mk.21.

Late Jan 1967: Remaining Beaufighter components (approximately two-thirds of the airframe) transferred to St Athan for restoration as a second aircraft by No.4 SOTT.

27 Jan 67: Allocated 7931M at St Athan.

Feb 67: Restoration commenced. Work began with a kit of parts that formed RD253, including nose, centre and rear fuselage sections, undercarriage, outer wings, tail, centre section and control surfaces, but no engines. All were refurbished and reassembled and missing parts searched for. Some serviceable tyres were found and inner tubes supplied free of charge by the Dunlop Tyre Co. The tyre bay at St Athan yielded an almost unused tail wheel assembly; an ATC Squadron in Norfolk supplied an instrument panel. A Beaufighter crash site in Snowdonia yielded more components. The search for parts was aided by the South Wales Aircraft Preservation Society.

Sep 67: Restoration virtually complete except for engines. One engine (Hercules XVI) temporarily fitted.

1968: Restoration completed. Engines taken from RD867, which went to Canada in September 1969.

15 Mar 71: Transferred by No.71 MU Bicester, to Hendon, where the aircraft has remained on display in the main hall ever since, being given 'D-Day' invasion stripes in 1994.

[Authors note: As always, I would be delighted to hear any further details, additions, or corrections, particularly since little has appeared in print about Beaufighters in Portuguese service.]

Andrew Simpson, Royal Air Force Museum, Hendon, London, NW9 5LL, England.

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"According to my documentation, in 1956, the South Vietnamese AF acquired 55 North American T-6G Texans which they used to form a training unit at Nha Trang AFB. Can anyone provide additional information on these aircraft, e.g. photos, color schemes, code numbers?"

"My personal interests are the Belgian and Israeli air forces and the international military use of the T-6 Texan and MiG-21MF Fishbed J. I've quite a lot of information on these subjects and I can share this with any interested SAFCH members. Maybe

I can collaborate in writing an article for SAFO?" Gilbert Blockx (SAFCH #1426), Rerum Novarumlaan 86, B-2170 Merksem, Belgium.

"I would like to correspond with other modelers with interests similar to mine. My hobbies are researching aviation history, building R/C model airplanes, helicopters, gliders, and cars. My other hobbies are 4-stroke engines, philately, music, photography, and computers. I also collect plans of airplanes and ships, computer programs especially

flight simulations, bank notes, CDs and I have a collection of Polish stamps and First Day Covers. Therefore, I would like to correspond with anyone in the USA or other countries who wishes to exchange ideas, kits, modelling accessories and tools, magazines, books, computer programs, etc. I am particularly interested in obtaining a R/C kit helicopter kit. I promise to reply to every letter." Marian Nazimek, ul. Norwida 17d/7, 46-200 Kluczbork, Poland.



### SAML Aviatik in Yemeni Markings

Photos via Roberto Gentili  
(see letter on page 124)



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g

### Indian Navy Il-38

Photos by Peter Batuev  
(see article on page 119)



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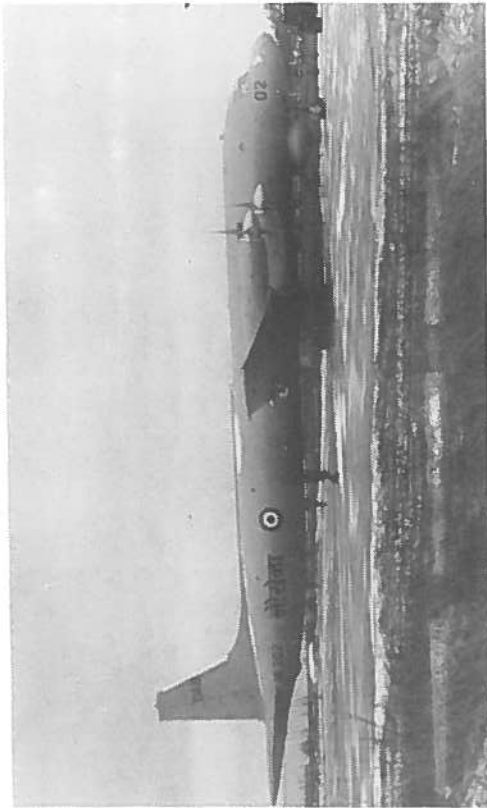






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**Indian Navy Il-38**  
 Photos by Peter Batuev  
 (see article on page 119)



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